Goulstonian Lectures

ON THE

CHEMICAL PATHOLOGY OF DIPHTHERIA COMPARED WITH THAT OF ANTHRAX, INFECTIVE ENDOCARDITIS, AND TETANUS.

By SIDNEY MARTIN, M.D., F.R.C.P.,

ASSISTANT PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL AND TO THE HOSPITAL FOR CONSUMPTION, BROMPTON; LATE PATHOLOGIST TO THE MIDDLESEX HOSPITAL.

LECTURE I.

INTRODUCTION.

MR. PRESIDENT,—I must in the first place express my sense of the honour which has been conferred upon me by my appointment as Goulstonian Lecturer, and I trust that what I shall bring forward will be deemed worthy of the traditions of this distinguished College. The subject I have chosen is the Chemical Pathology of Diphtheria compared with that of Anthrax, Infective Endocarditis, and Tetanus—that is, of two diseases, anthrax and infective endocarditis, eminently febrile, and of two, diphtheria and tetanus, with symptoms specially referable to the nervous system. They are all disorders in which the symptoms are due to a primary infective agent or living contagium. A mere study of the morphology of this primary infective agent does not explain the symptoms of the diseases; still less is this so when we consider that in diphtheria and acute traumatic tetanus the infective agent has been found only at the point of inoculation of the disease, and does not diffuse itself throughout the body. Beside the morphological characters of the infective agent and a histological examination, a chemical investigation is necessary; and to this we shall probably in the future have to look not only for an explanation of the symptoms of infective disorders, but for a scientifically grounded method of treatment. The direction of the research which I shall bring before you is the investigation in these specific disorders of the presence of specific poisons, the product of the primary infective agent. I will, as an explanatory introduction, state quite briefly what I have already published on the chemical pathology of anthrax—a disease which serves as an excellent example, since its microscopical anatomy and bacteriology have been very completely worked out. It is characterised in its anatomy by the presence of the bacillus anthracis at the seat of inoculation and in different organs of the body, especially the spleen; and in symptoms by the onset of fever, by the presence of great prostration, and by the occurrence of stupor ending in coma and death.

ANTHRAX.

If the bacillus anthracis is grown in a medium which resembles the fluids of the body in containing an animal proteid and a certain proportion of mineral salts, it digests the proteid with the formation of products resembling chemically those found in peptic and in tryptic digestion, with the exception, however, that the final product is a base, an organic body forming salts with acids.

Primary agent or primary infective agent.	Ferment.	Digestive products.
Living cell	Pepsin	Syntonin, hetero-albumose, proto-albumose, deutero-albumose, peptone.
Living cell	Trypsin	Globulin-like body, tryptone (peptone), leucin, tyrosin, a bitter body.
Bacillus anthracis	(Anthrax digestion)	Hetero-albumose, proto-albumose, deutero-albumose, peptone, leucin, tyrosin, alkaloid (base).

A glance at this table will show you the relation between anthrax digestion and those by trypsin and pepsin. It is similar to the peptic digestion of proteids in the formation of albumoses and peptone, and it is like tryptic digestion in the fact that the proteid molecule is split up into non-proteid organic bodies, the chief of which is the anthrax base. The two chief proteid digestive products which concern us at present are proto-albumose and deutero-albumose. They have, in common with peptone, the following reactions:—(1) They are soluble in water, cold or boiling, forming a yellow solution; (2) they give a pink colour (biuret reaction) with copper sulphate and potash solution; (3) they are precipitated by alcohol, but not coagulated by it. In these reactions they differ from hetero-albumose and ordinary globulins and albumens. They are distinguished from each other by the following reactions:—Proto-albumose is precipitated in the cold by nitric acid, the precipitate being soluble on heating, reappearing on cooling, &c.; it is also precipitated by saturation with sodium chloride. Deutero-albumose is not precipitated by nitric acid, unless a certain percentage of sodium chloride be added, and is not precipitated by saturation with this salt if the liquid be only slightly acid. Peptone is not precipitated by nitric acid, and therefore the mode of precipitation by this reagent is a distinguishing reaction between the two chief albumoses and peptone. The anthrax albumoses have the same chemical characteristics as those formed in peptic digestion. The anthrax alkaloid is an amorphous yellow body with an alkaline reaction, soluble in alcohol and in amyl alcohol, and precipitated by many reagents which throw down alkaloids, but not by Mayer's solution.

Chemical products of tissues of anthrax animals.—The results of the investigation of the artificial chemical products of the bacillus anthracis indicated the chemical bodies to look for in the blood and other tissues of animals suffering from the disease. In guinea-pigs and a sheep, which were inoculated with anthrax and died from it, it was found that both classes of products were present in the œdema produced at the site of inoculation, in the blood, and in the spleen; and in a man who died of anthrax in Guy's Hospital from the natural disease the same results were obtained; and in this case it was also found that both classes of products were excreted in the urine. An approximate estimation of the amount of anthrax products present in the body at death is seen in the following table, in which the amount in the local lesion, the spleen, and the blood is shown.

In Full-grown Sheep dead of Anthrax.

	Albumoses.	Alkaloid.
From local lesion	0·167 grm.	0·1346 grm.
From spleen	0·191 ,,	1·2080 ,,
From blood (chiefly deutero-albumose)	0·455 ,,	0·6430 ,,
Total	0·813 grm.	1·9856 grm.

It will thus be seen that in the natural disease the two classes of products are both present, but that the amount of the alkaloid is much greater than that of the albumoses, and the results of the investigation of the physiological action of the products show that the alkaloid is the chief agent in producing death. In mice so small a quantity of the mixed products as 18 milligrammes of the albumoses and 28 milligrammes of the alkaloid will produce death in nineteen hours. In guinea-pigs in which the mixed products are injected subcutaneously there is at first fever, which may pass off. If a large dose of the alkaloid is given in proportion to the albumoses, coma ensues, which may last as long as fifty hours; and at the same time there is a spreading œdema at the seat of inoculation. During this coma there is no high fever, and there may actually be a depression of temperature. The *rôle* which these products individually play is seen by injecting them separately into animals. The albumoses are the fever producers; the alkaloid is the coma producer.

This chart shows the fever produced in guinea-pigs by a subcutaneous inoculation of anthrax albumoses compared with that produced by peptic albumoses; the dose in all is the same—namely, 0·2 gramme per kilogramme of body weight. The upper line shows a rise of temperature two hours after inoculation, and lasting over twenty-four hours; this is of anthrax albumoses unheated. The second thin line shows the fever produced after boiling for thirty seconds; it is slightly less than the first. The third dotted line shows the fever produced by peptic albumoses, which is not so well marked as that of the unheated anthrax albumoses. These animals showed no other symptoms but fever. The prolonged effect of the anthrax albumoses is best seen when they are injected directly into the circulation. The effect of the injection of a dose of 0·122 gramme per kilogramme of body weight into the marginal vein of the ear of a rabbit is a rise of temperature of over 40 in

four hours after inoculation, and a continuance of the fever during the second and third day of experiment, the temperature being normal on the fourth day. Three times this dose produces a very moderate rise of temperature and then a fall, ending in death in a few hours. The alkaloid produces either no rise of temperature or a very slight one; it is a local irritant, producing œdema, and is the cause of the coma. The investigation of the chemical pathology of anthrax gives us, therefore, a clear idea as to the means by which the bacillus anthracis, the primary infective agent, acts. When introduced into the body the bacillus begins to digest the proteids; the products of digestion cause a local œdema containing in solution (like other pathological effusions) a large quantity of proteids which are outside the metabolism of the body, and which therefore serve as a suitable food for the bacillus. The absorption of the digested products from the local œdema, and from the other parts of the body in which the bacillus grows, produces the symptoms of the disease, and it is to the gradual accumulation of the poisonous anthrax base that the stupor ending in coma and death is due. These bodies are the specific products of the bacillus, and are readily recognised either in a cultivation or when separated from the tissues of an animal dead of the disease.

DIPHTHERIA.

The general conclusion from the study of the chemistry of anthrax was that two classes of products were formed from the proteids of the body by the bacillus, one belonging to the digested proteids—viz., albumoses,—the other to the non-proteid class, a definite organic base with a specific action. With these results in mind the work on diphtheria was begun, but a somewhat different method of investigation was adopted. The tissues of patients dead of diphtheria were, in the first instance, chemically investigated before an attempt was made to isolate the products of the bacillus diphtheriæ. In the search for specific poisons in diphtheria the aim was perhaps theoretically simpler than in the case of anthrax, for in diphtheria there is the peculiar palsy which follows the disease, and is so closely associated with it that it is more properly considered a symptom, and not a sequela. All facts point to the diphtheritic membrane as the seat of origin of the disease, so that it was examined chemically, as well as the blood, spleen, and kidneys.

Cases of diphtheria examined.—In all eight cases of diphtheria were examined, six of which are shown in the following table. They all occurred in children.

No. of Post-mortem Exams.	Hours after death.	Age of Patient.	Duration of disease.	Extent of diphtheria.	Other lesions.
1	3½	1 year	6 days	Laryngeal	——
2	3	5 years	8 ,,	Nasal, pharyngeal, & laryngeal	——
3	6½	4 ,,	10 ,,	Tonsillar	1 small suppurating gland below jaw
4	12	1½ ,,	9 ,,	Pharyngeal and laryngeal	——
	4	3½ ,,	7 ,,	Pharyngeal and laryngeal	Broncho-pneumonia
	13½	8 ,,	4 ,,	Naso-pharyngeal	——

Cases 2, 4, 5, and 6 showed at the post-mortem examination the typical diphtheritic membrane, and a microscopical examination exhibited the typical structure of the membrane with the presence of the bacillus diphtheriæ in the superficial layers. Case 6 might be classed as one of malignant diphtheria from its rapid course with high fever and great prostration. Cases 1 and 3 differed from the others in the following respects. In Case 1 there was at the post-mortem examination nothing visible to the naked eye as the cause of death. There were a few small erosions on the under surface of the epiglottis and in the upper part of the larynx, but no membrane, nor had membrane been observed during life. The pharynx and fauces were normal. On a microscopical examination a few minute flakes of membrane were found in the larynx with the diphtheritic bacillus near the free surface of the membrane. During life the child had suffered from a croupy cough, and died in dyspnœa after tracheotomy. This case resembles those described as croup. Case 3 showed at the post-mortem examination congestion and erosion of the tonsils and congestion of the pharynx; there was no membrane, and cultivations of the throat yielded only micrococci, and not the bacillus diphtheriæ. Membrane was, however, present in the throat on admission into the hospital. These six cases, therefore, represent the different classes of cases which die; those with typical membrane in the nose, pharynx, or larynx, as Cases 2, 4, 5, and 6, some of which may have broncho-pneumonia as well; those in which the disease is limited to the larynx, and in which membrane is discovered only microscopically; and, lastly, cases in which the membrane, as such, has disappeared, leaving a congested condition of the throat, and in which the disease is associated with a secondary pus infection of the lymphatic glands below the jaw.

Method of examination of tissues.—In the separation of poisonous products from the tissues or from a culture of a micro-organism, the same method is applicable, except that the culture has first to be freed from bacilli. With the tissues, for example, the spleen and other organs are finely minced and placed in rectified spirit, the blood is also placed in rectified spirit, and the mixtures are allowed to stand until all the ordinary proteids are coagulated. They are then filtered and the residue is extracted with cold distilled water until nothing more dissolves. All the extracts are mixed together, evaporated at 35° C. to a small bulk, and thrown into absolute alcohol. This precipitates most of the albumoses, some deutero-albumose remaining in solution. After standing the alcohol is poured off the precipitate, evaporated to dryness at a low temperature, and extracted by absolute alcohol until nothing more dissolves. The residue left is deutero-albumose with mineral salts. All the proteid is mixed together, dissolved in a small quantity of water and precipitated by alcohol, the process being repeated several times to remove any traces of bodies soluble in alcohol and the excess of mineral salts. At the last precipitation the precipitate is allowed to stand under alcohol for from six weeks to two months, after which the alcohol is poured off and the precipitate dried *in vacuo*; so that from first to last the products are in contact with no reagent but pure alcohol, and are never heated to above 40° C. The resulting product is a light-yellowish brown powder, which yields nothing to alcohol, ether, or chloroform, and which keeps indefinitely if preserved in a dry atmosphere. It is soluble in water, cold or boiling; its solution being yellowish, sometimes faintly acid or nearly neutral. It consists almost solely of deutero-albumose, a small amount of proto-albumose being also present. There is no peptone in it. It gives all the ordinary actions of proteid and a well-marked biuret reaction. It is completely precipitated from solution by saturation with ammonium sulphate; nitric acid gives a slight precipitate, which is greatly increased if sodium chloride be added to the solution. In fact, this proteid powder is chiefly deutero-albumose, giving reactions similar to those of peptic deutero-albumose. The alcoholic extract of the tissues is strongly acid, and contains an appreciable quantity of free fatty acid, and also of another organic acid, which is separated from the first by its insolubility in chloroform. This organic acid is readily soluble in water and absolute alcohol, and quite insoluble in ether, chloroform, and benzene. It is a yellowish amorphous body, which becomes a deep brown on being made alkaline. Its further chemical characteristics are not at present investigated. In the tissues of none of these patients was there any organic base or alkaloid present.

Amount of these products present.—An attempt was made in some of the cases examined to estimate the amount of albumoses and alcoholic extract (that is, organic acid) present in the blood and spleen. The weights given are only approximate, as there is such a great loss of the substances during purification.

No. of case.	Seat of Disease.	Albumoses in grammes.			Alcoholic Extract.
		Blood and Spleen.	Blood only.	Spleen only.	Blood and Spleen.
1	Larynx	0·974	..	..	0·271
3	Tonsils	0·5955	..	..	..
4	Pharynx and larynx	..	0·149	..	0·167 (blood only)
5	Pharynx and larynx	0·805	0·450	0·355	0·455
6	Naso-pharynx ..	..	trace	0·715	..

From this table the following conclusions may be drawn:—1. The albumoses are always associated with the presence of the organic acid, and the amount of albumoses is much greater than that of the acid. This is a fact of great importance in considering the relative physiological action of the two classes of substances. It will be noticed, too, that in Case 1, which occurred in a child only a year old, nearly a gramme of albumoses was obtained from the blood, spleen, and kidneys, which represents a much larger quantity really existing in the body, owing to the large amount lost in purification. 2. In two of the cases the greatest quantity of albumoses was present in the spleen—in Case 1, in which the organ was not enlarged, and in Case 6, in which only a trace was found in the blood and 0·715 gramme in the spleen. Similarly from the spleen a larger amount of the acid body was obtained than from the blood. The spleen is, in fact, the chief repository of the diphtheritic poison in the body. 3. It is also noticeable that in Cases 1 and 3, to which attention has been already drawn, as differing from the typical cases of diphtheria seen on the post-mortem table, the same bodies were found as in the typical cases of diphtheria, and it may be at once stated that the results of the physiological action of these bodies were the same in all the cases. Cases 1, 3, 5, and 6 were those in which the products were used for physiological experiments. We might, therefore, sum up the chemistry of the tissues in diphtheria by saying that two classes of substances are present which are abnormal to the body, one belonging to the group of digested proteids—namely, albumoses; the other an organic acid. Contrasted with anthrax, it is seen that, whereas the bacillus anthracis produces albumoses and an organic base, in diphtheria we have albumoses and an organic acid. The albumoses of diphtheria cannot be distinguished from those of anthrax or peptic digestion by chemical means. Their physiological effect—a test more delicate than any chemical reaction—is the only method by which their specificity is made evident.

Physiological action of the albumoses found in the tissues in diphtheria.—1. When subcutaneously injected the diphtheria albumoses produce a local œdema, which in one case came on in two hours, spread rapidly for twenty-four hours, and rapidly diminished; so that in thirty-six hours it had practically gone and left no trace behind. It is a clear œdema, unaccompanied by any naked-eye congestion of the part, and not followed by any necrosis. 2. A more important effect is that on the body temperature. The subcutaneous injection of 0·256 gramme per kilogramme of body weight in a guinea-pig produced only an irregularity of the temperature and no well-marked rise—a result in marked contrast to the similar experiment with anthrax and peptic albumoses, which I have already demonstrated. When injected into the circulation of rabbits, however, these albumoses will produce fever.

Rabbits (precautions).—It is necessary to premise that in all experiments on the effect of the intravenous injection of these proteid poisons certain precautions must be taken in order to ensure that the animal you use for experiment is a healthy one. My usual practice is to isolate an animal and to take its weight, then to observe its temperature three or four times daily for a week or more. If during this time the animal gains in weight, and if the rectal temperature does not at any time rise to 103°, or for one day does not keep at about 102·5°, the animal is used for experiment. If such precautions are taken, both time and animals are saved, and greater accuracy in the experiments is secured. There is one disease in rabbits—viz., spinal curvature causing paraplegia—which is not excluded by the precautions which I have enumerated; but this disease is a very definite one, and readily recognised.

Intravenous inoculation, single doses.—In one animal a dose of 0·117 gramme per kilogramme of body weight produced a well-marked rise of temperature on the day of inoculation, and a slight degree of fever lasting two days more. Nothing further happened to this animal. It did not get paralysed, and when killed in ninety-four days it was fat and well nourished. In another animal a dose of 0·122 gramme per kilogramme of body weight produced a rapid fall of temperature, and death in three hours. Paralysis of the hind limbs occurred in one hour and a half, and was followed by coma. An examination made just after death showed a pinkish colouration of the lungs, due to congestion, and pallor of the spleen. There were no ecchymoses and no effusion. The blood was profoundly altered; it was dark and fluid, and was slow in coagulating. A small quantity put into a watch glass did not set for over fifteen minutes. Normal rabbit's blood begins to coagulate in from half a minute to one minute and a half. The retardation of coagulation observed in this instance is not peculiar to diphtheria products, but is observed also with the ordinary peptic albumoses.

Intravenous inoculation: multiple doses.—The effects following the intravenous injection of the diphtheria albumoses in divided doses is much more important than similar experiments with single doses. With multiple doses one imitates, imperfectly it is true, the course of events in the natural disease; moreover, as is well known, multiple small doses of a poison have a more powerful effect than a simple large doses.

Intravenous Injection of Diphtheria Albumoses in Rabbits in Multiple Doses.

Weight of rabbit in grammes.	No. of case of diphtheria.	No. of doses.	Total dose per kilogramme of body weight.	No. of days before death occurred.	No. of days before paralysis occurred.
1100	5	2	0·136 gramme	7	2
1970	5	2	0·153 ,,	11	6
970	6	3	0·157 ,,	10	7
1565	3	2	0·100 ,,	Killed in 24 days.	20
1200	6	2	0·083 ,,	Recovery in 54 days.	8

The doses were given, as a rule, on successive days; in one case on the same day. The first symptom noticed after the inoculation is fever, which in some cases is great and in some slight. In the first animal the fever lasted during the seven days it lived. This is the only instance of such an occurrence in any of the animals. In the second animal, in which the two doses were given on the same day, the fever lasted only during that day and was very slight. In the fifth animal the fever lasted about three days after the inoculation, and was moderate in degree. The effect on the body temperature is therefore a very varying one; but whether these animals have slight or great fever, they all show a more definite symptom—that is, a paresis of the muscles. In the first animal, for example, which had high fever, paresis of the left leg appeared on the second day; it was not used so much as the right leg in jumping. The paresis was more marked on the fourth day, both legs were affected on the fifth day, and on the seventh day there was paresis of all the limbs. There was no complete paralysis, for just before death the animal could still move when touched, although it only hobbled a few paces. The second animal showed paresis of the right foreleg on the sixth day, and on the ninth day this extended to the other foreleg. There was a general weakness of the muscles until death on the eleventh day. In the third animal, with a moderate degree of fever lasting six days, a general weakness of the animal appeared on the fifth day, and a definite paresis in the hind limbs on the seventh day. This increased till death. The fourth animal, also with moderate fever, but with a smaller dose than the three just mentioned, showed only a slight general weakness for twenty days. On the twentieth day the paresis was definite in the hind legs; the animal was indisposed to move, and could not jump vigorously; the respiration was extremely rapid. The animal, however, recovered from the respiratory symptoms, and was killed on the twenty-fourth day. The fifth animal showed a slight continued fever after the second dose, which passed off in five days. Weakness in the hind legs appeared on the second day. On the eighth day the hind legs were much weaker, especially the left one, which was held slightly abducted. It continued in this state till the nineteenth day, when almost suddenly it became much worse. Attempts at walking and jumping resulted in an irregular movement, which carried the animal some distance forwards, when it stopped with limbs outstretched. The breathing was extremely rapid, and there were occasionally slight convulsive movements of all the limbs, which were possibly of respiratory origin. This serious condition of the animal passed off, and it regained a great deal of power in its limbs. The condition just described as passing off in this animal, which had the smallest dose, is the mode in which the other animals, which had the larger doses, died. It is, so to speak, the culminating point of the paresis which, although more marked in certain limbs, is always general, affecting the trunk muscles as well

as those of the limbs. When it comes on with the larger doses it usually lasts twenty-four hours before the animal dies. It is, as shown by the post-mortem examination, partly respiratory and partly cardiac in origin. From the injection, therefore, of the diphtheria albumoses a paresis of the muscles is produced which may be most marked in one limb, but is always general and progressive. It is associated with an affection of the respiration as shown in the rapidity, or in some cases slowness, of breathing during the attacks described, which may pass off if the dose be small enough. With this paresis there is no special wasting of the muscles; even when the limb of one side is more paretic than that of the other, it does not waste to a greater extent. As regards loss of sensation, I did not attempt to estimate it, as the animals were rabbits. No affection of the pupil was noted in any of the animals. With the large doses the knee-jerks were found diminished after some days, but they never completely disappeared. When one hind leg was more paretic than the other, the knee-jerk on that side was diminished.

Loss of weight.—Although the muscles do not specially waste, there is a general loss of weight, which is the more marked the larger the dose.

Table of Loss of Weight.

Original weight in grammes.	Weight at death.	Proportional loss of weight.	No. of days before death occurred.	Fever period.	Dose of albumoses per kilo.
1100	970	⅛	7	7 days	0·136
1070	1520	⅛	11	1 „	0·153
970	830	⅛	10	6 „	0·157

It will be noticed that the larger the total dose the greater the wasting which is produced. With the largest dose given the wasting was enormous, being nearly one-half of the original body weight. This wasting is not proportional to the fever, as it goes on after the fever has subsided. This is seen in animals 2 and 3, in one of which, with fever lasting only one day, one-quarter of the body weight was lost; and in the other, with fever lasting six days, one-half of the body weight was lost. With the smaller doses given, although the paresis was well marked and the respiratory troubles very manifest, the loss of weight was much less than in the animals shown in the table. Thus the animal with the total dose of 0·100 gramme per kilogramme of body weight showed on the eleventh day a loss of one-tenth of its body weight, after which it rapidly increased in size until it was killed (on the twenty-fourth day), while the animal with the total dose of 0·083 gramme per kilogramme of body weight showed in eighteen days a loss of only one-sixtieth of its body weight, after which it rapidly surpassed its original weight by 100 grammes, and subsequently showed only slight fluctuations in its weight. In these cases also the loss of weight is proportional to the dose of albumoses, and not to the fever.

Diarrhœa.—This is a symptom noticed only with the largest doses, and may last several days. It is watery and non-sanguineous. One of the most striking features of the action of these albumoses is their prolonged effect. The fever may last a long time; the paresis produced may be rapid in onset, but is slow in progress, and the general wasting produced is slow and prolonged.

Post-mortem examination.—That the symptoms described are really due to the action of these diphtheritic albumoses is evidenced by the post-mortem examination. That the animals did not die from the accidental introduction of a pathogenous micro-organism is shown by the fact that neither a microscopical examination of the organs of the body nor cultivations of the blood and spleen on agar and gelatine showed the presence of any such micro-organisms. The liver, spleen, and kidneys were, to the naked eye and to microscopical examination, normal. The lungs, lymph glands, and supra-renals were normal. In only one instance was subcutaneous œdema found; that was in the first animal, in which there was a large amount of œdema over the abdomen. As this was absent in the other animals, it was looked upon as an accidental effect of the poison. The albumoses used in inoculation were free from micro-organisms; the mode of preparation ensures this, since, from their removal from the body until they are dried, they are always in contact with an excess of pure alcohol, and when dried they are not touched except with sterile instruments, and are preserved in a sterile bottle in a dry atmosphere. All instruments used in the experiments are also sterilised, so that the effect of bacteria in producing the symptoms described is definitely excluded. But that the albumoses were acting in the body while the animal was alive is shown by the condition of the blood after death. It has already been mentioned that the blood was slow in coagulating in the animal which died in three hours after a single dose. In the animal which had the largest dose of the albumoses in three doses the blood was found in a similar condition. The animal died during the night, and the blood drawn from the right ventricles at 10 A.M. was liquid and of a lighter red than venous blood. In twenty-five minutes, at the temperature of the laboratory, a small amount placed in the watch glass began to coagulate, and was completely set in two hours. This slow coagulability of the blood, which is a well-known feature of the action of albumoses on the blood, showed that the diphtheria albumoses were actually present in the circulation in this case ten days after inoculation. But even in the animal which was killed twenty-four days after inoculation the blood was found slow to coagulate, commencing to set in about fifteen minutes, when removed one hour after death. This condition, however, was not found in another animal which died in eleven days after the inoculation of two doses of 0·153 gramme per kilogramme of body weight; but in this instance the two doses were given on the same day, and this fact, together with a difference in the rate of excretion in different animals, may show that the albumoses were not in sufficient quantity in the blood to retard coagulation, but were present in sufficient amount to produce the other symptoms of diphtheria albumoses—viz., the paresis and loss of weight. The condition of the blood in these animals appears to me to be extremely important, as it helps to explain why diphtheritic paralysis in man can occur sometimes after the acute disease is past.

ABSTRACT OF THE

Milroy Lectures

ON THE

PHYSICAL AND MENTAL CONDITION OF SCHOOL CHILDREN.

Delivered at the Royal College of Physicians, London, March 8th, 10th, 15th, and 17th,

BY FRANCIS WARNER, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE LONDON HOSPITAL.

LECTURE III.

RESULTS OF INSPECTION OF 50,000 CHILDREN SEEN IN 106 SCHOOLS.

The classes and groups of children described.—The study of the principles and methods of procedure to be employed, and practice in making observations and in describing them, were so far advanced in 1888 that a committee was formed by the Psychological Section of the British Medical Association, and, in conjunction with Dr. Hack Tuke, Dr. Fletcher Beach, and Dr. Shuttleworth, Dr. Warner made observations on 5000 children in fourteen schools, and published a report.[1] It should here be said that the observations of 1888–9 are incorporated in the larger report of 1890–92. This first inquiry, and the subsequent arrangement of cases in groups, afforded valuable experience, and gave many useful hints as to how the work should be further extended, and also as to the best methods of keeping the records and the kind of results to be looked for. Following the publication of this first report, a special committee was appointed by the Charity Organisation Society, including representatives of the older committee, and a report has been prepared on 50,000 children seen: Boys, 26,884; girls, 23,143.

Group 1. Normal or average children.—Boys 21,315, girls 19,536. Percentages on numbers seen: boys 79·3, girls 84·5. Such children are the average as presenting no visible defects or abnormal nerve signs, and not being reported as dull at lessons.

Group 2. Children presenting some deviations from the

[1] Brit. Med. Jour., July 27th, 1889.

normal, of whom notes were accordingly taken.—Boys 5579, girls 3607—total 9186. Percentage on numbers seen: boys 20·7, girls 15·5—total 18·3. Schedules were filled in for each of these cases; their varying conditions have been analysed, and they will now be presented in groups or classes.

Group 3. Children presenting no defects in development or abnormal nerve signs, but reported as dull by the teachers.—Boys 185, girls 134—total 319. Such cases present good physical development and a sound condition of brain as indicated by motor action. It appears that the brains of these children, though capable and healthy, had but little power for school work. It is important to differentiate such pupils from those with defective conditions.

Group 4. Children feeble minded, or exceptional in mental status.—Boys 124, girls 110. Of these cases, 2 were idiots, 46 imbeciles or definitely mentally wanting; 12 were mentally exceptional, wanting in moral faculty, or liable to mental attacks; 174 are entered as "feeble minded," or defective in mental capacity short of actual imbecility; probably many of them would on further examination be found imbecile, although some may be capable of great improvement.

Group 5. Epileptics, and children with history of fits during school life.—Boys 36, girls 18—total 54. These cases were inquired for in every school, and in some instances children not attending school were sent for by the teachers. Any case with a history or indications of fits during school life was recorded for what it may be worth; a list of these cases has been published.[2] It would appear that most epileptic children are absent from school. Of the cases given, 5 boys and 5 girls were mentally defective.

Group 6. Children crippled, paralysed, maimed, or deformed (not eye cases).—Boys 155, girls 84—total 239. These children varied greatly in brain power; some were mentally bright, others dull. They also varied in conditions of health. The conditions of disease causing crippling were in various stages, and many of these children were capable of work and play. Five boys and five girls were mentally defective. Cripples from congenital defect: Boys 7, girls 9—total 16. Cripples from disease or injury: Boys 88, girls 53—total 141. Cripples from paralysis: Boys 60, girls 22—total 82.

Group 7. Children deaf, or partially deaf.—Boys 34, girls 33. These numbers do not include 51 children seen in a special school, of whom an account was given in an early report. Tests for hearing were not commonly used, but a child found deaf was noted. There were some deaf and dumb in the day schools.

Group 8. Eye cases.—Boys 836, girls 637. Tests for vision and errors of refraction were not used, and ophthalmia was passed over, but when the eyes were looked at obvious defects were noted. Ophthalmia was seen in some day schools. There were of squint cases 807, some requiring operation, many temporary, but only 276 children in all used convex glasses; 48 used concave glasses. The group shows what a large amount of ophthalmic work is needed among children.

Group 9. Children pale, thin, delicate; nutrition low.—Boys 1030, girls 973. The most obvious fact concerning these children was that 733 of the boys and 726 of the girls presented some defects in development. No inquiries were made as to the feeding of these children, but it may be assumed that among the upper grade schools and in the resident schools food was sufficient; still the development cases were of low nutrition there also. Among the 50,000 cases the percentage of low nutrition was for boys 3·8, for girls 4·2, and among the development cases it was for boys 20·2, for girls 32·0.

Group 10. Children presenting defects in development.—Boys 3616, girls 2235. Conditions of mal-development form the largest class of visible defects observed, and as signs easily recognised and capable of description and classification they stand prominently forward as pathological conditions characterising portions of the child population. Analysis and comparison of cases show the developmental signs to be of different value and importance; to demonstrate this the correlation of each sign has been determined (see Interim Report published); from the point of view of estimating potential mental capacity these signs are of value only in as far as experience gained in observation shows their average correlation with cerebral or mental defects. The defectiveness in the make of a child is more strongly indicated when two mal-developments are present; this was noted in 1240 boys, 683 girls; their correlation was higher than for a single defect—with nerve signs 45, low nutrition 31, dulness 60 per cent.

Group 11. Cases presenting nerve signs.—Boys 3413, girls 2074. Abnormal nerve signs are largely correlated with defects in development—that is to say, some mal-proportion in the parts of the body is largely associated with a tendency to ill-balance among the nerve centres. The significance of these signs varies in two directions: some indicate an over-mobile nerve system, the centres tending to separate and spontaneous action, not well under control through the senses, of which finger-twitching is the type; and a second set which indicate low class brain development. These are mostly repeatitive uniform movements, athetoid in type, and represented by chronic over-action of the frontal muscles and repeated grinning.

Group 12. Cases of rickets.—Boys 157, girls 30—total 196. With nerve signs: Boys 54, girls 15—total 69. With low nutrition: Boys 32, girls 13—total 45. With mental dulness: Boys 64, girls 10—total 74. Probably more children were or had been rachitic than those registered; when the conditions seen in the bones left no doubt, the case was registered accordingly, but the body could not be examined in detail under the conditions of this inquiry. It seems that a great character about the conditions termed "rickets" is the malproportion of growth in the skeleton, especially about the cranium. It is shown that defects in development other than cranium and palate were found in 58 boys, 11 girls—total 69 cases. The pathological question might be raised whether a large proportion of the cases registered as "cranial bosses"—a sub-group of the cranial abnormalities amounting to boys 495, girls 127; total 622—were not really cases of rickets. These rachitic children are badly proportioned. Cranial abnormalities: Boys 143, girls 26—total 169. Palate defective: Boys 23, girls 8—total 31. Cranium and palate defective: Boys 21, girls 6—total 27. Small in growth: Boys 10, girls 5—total 15.

Group 13. A group of cases with defects in development: Abnormal nerve signs and low nutrition.—Boys 412, girls 381—total 793. With mental dulness: Boys 192, girls 157—total 349. This group appears, in fact, to present a special class of development cases, in which the inheritance has produced not only visible malproportions or proportioning in the body, but also a constitutional tendency to low nutrition, and a state of nerve centres ill balanced or badly acting. Such children may be said to be delicate, and 44 per cent. of these were reported by teachers as dull. These children when dull are included in the group that appears to need special care or training.

Group 14. Children reported by the teachers as dull in school.—In every case recorded the teachers' opinion concerning the child's mental capacity was asked for and taken down as evidence. The number of dull children was: boys 2216, girls 1463—total 3679. Their correlations are given in full in a table. Of these dull children, defects in development or abnormal nerve signs were found in 3266 cases.

Group 15. Children that appear to require special care and training.—It is not intended to imply that these children cannot be provided for in day schools; but they need to be provided for, and it might be well that they should be marked on the school register, and their attendance and progress noted by the managers. The group includes children feeble minded or mentally exceptional (Group 4); epileptic, cripples and "the development cases, with low nutrition and nerve signs, who were reported as dull mentally." The group as thus arranged, allowing for overlapping cases, contains 817 children (boys 473, girls 344), or 1·6 per cent. on the 50,000. Of the number given, 165 are included on physical grounds as not being mentally dull.

Group 16. Children presenting abnormal nerve signs without defects in development.—Boys 1438, girls 978—total 2416. In these cases there are no indications of defect in development to account for the nerve signs, and they appear to be due to other causes; they are slightly more frequent among the resident children and among the upper class children than in the average day schools, so that low feeding does not appear as a potent cause. It is probable that in this group we have the children of normal make who are ill-trained, neglected, and over-pressed by the stress of life. These seem to be the children most improvable by altered

[2] See Interim Report on Schools, Charity Organisation Society.

conditions and appropriate training. Many are of ill balance and nervous; 39 per cent. of them were dull.

Group 17. Children presenting development defects with abnormal nerve signs.—Boys 1975, girls 1096—total 3071. With low nutrition: Boys 733, girls 726—total 1459. With mental dulness: Boys 835, girls 475—total 1310. These children appear as cases with malproportioning of the body and ill-balanced nerve centres. The percentage of dulness among them is higher than among either the "development cases" or the "nerve cases."

Group 18. Children presenting development defects without abnormal nerve signs.—Boys 1641, girls 1139—total 2780. These development cases, with a well-regulated nerve system, present less dulness than the last group, showing the importance of observing nerve signs. Of development cases with nerve signs, 43 per cent. dull. Of development cases without nerve signs, 35 per cent. dull. Comparing groups of schools, the percentages go against the residents as compared with day schools, except as to nutrition. Again, comparing schools of upper and lower grade, the conditions found are in favour of the lower class. Lastly, among the English children development defects are found in 10·8 per cent., among Jews 7·5 per cent., among the Irish 20 per cent.

The lecture was illustrated by tables and charts.

MICROCOCCUS PNEUMONIÆ CROUPOSÆ.

BY GEORGE M. STERNBERG,
LIEUT.-COLONEL AND SURGEON, UNITED STATES ARMY.

Synonyms.—Microbe septicémique du salive (*Pasteur*), *Coccus lanceolé* (*Talamon*), *Micrococcus Pasteuri* (*Sternberg*), "*Pneumococcus of Fränkel*," *Diplococcus pneumoniæ* (*Weichselbaum*), *Bacillus salivarius septicus* (*Flügge*), *Streptococcus lanceolatus Pasteuri* (*Gamaleia*).

THE object of the present brief paper is to call attention to the earlier researches relating to the important pathogenic micrococcus to which it refers. This seems desirable at the present moment, inasmuch as the distinguished author of the Croonian lectures, recently published in THE LANCET, has given an account of the history of the micrococcus in question, in which he fails to recognise my priority in its discovery. He says:—"Its history is as follows. In 1881 M. Pasteur observed to his surprise, in inoculating a rabbit with the saliva of a child affected with hydrophobia, that the animal died rapidly of septicæmia. Subsequently, Dr. Sternberg[1] of Washington, having observed that the inoculation of pneumonic sputum induced in the rabbit symptoms similar to those observed by Pasteur,[2] repeated the experiment with his own saliva. As this animal also died of septicæmia, he was led to investigate the subject bacteriologically, and found that in all the animals inoculated the same microzyme occurred, and that it corresponds with Pasteur's description of the 'microbe septicé nique du salive.'" Now, as a matter of fact, and of record, the present writer discovered the micrococcus in question in the blood of rabbits inoculated with his own saliva, in the city of New Orleans, in September, 1880, three months before Pasteur discovered it (December, 1880) in the blood of rabbits inoculated with the saliva of a child which died of hydrophobia in one of the hospitals of Paris. At the date referred to I was not able to follow up my experiments immediately, as I was engaged in another investigation. But they are recorded, with the date upon which they were made, in my special report to the National Board of Health on "Experimental Investigations relating to the Etiology of the Malarial Fevers," which was submitted some time before the publication of Pasteur's note referred to by Dr. Burdon-Sanderson, and was published in the National Board of Health Bulletin, vol. iii., Washington, 1881–82. Impressed with the surprising fact that my saliva contained a pathogenic micrococcus which quickly proved fatal to rabbits inoculated with the fluid containing it, I went to Philadelphia in January, 1881 (before the publication of Pasteur's first communication), for the express purpose of making further investigations with reference to this micrococcus in the laboratory of the medical department of the University of Philadelphia. "Here eleven inoculation experiments demonstrated (*a*) that the virulence noted was not due to season or locality, as the same result followed inoculations made in Philadelphia during the winter months as had been obtained by similar inoculations in New Orleans during the heat of summer; (*b*) that this virulence was not an individual peculiarity, inasmuch as eleven rabbits inoculated with the saliva of six different persons gave eight deaths and three negative results." In March, 1881 (still before the publication of Pasteur's first communication), I resumed my experiments in the biological laboratory of Johns Hopkins University, Baltimore, and, by the inoculation of pure cultures obtained from the blood of infected rabbits, proved that the fatal septicæmia induced in rabbits by inoculating them with my saliva was beyond question due to this particular micrococcus. I also determined many of its biological characters, accurately described its morphology, and made photo-micrographs showing it in the blood of an infected rabbit. The results of this investigation are published in my paper on "A Fatal Form of Septicæmia in the Rabbit, produced by the Subcutaneous Injection of Human Saliva."[3] The publication of this paper was considerably delayed after I had completed my research, and in the meantime Pasteur had published his "Note sur une Maladie nouvelle provoquée par la Salive," referred to by Dr. Burdon-Sanderson.

My earlier researches were followed by others, in which I used this micrococcus as a test of the comparative value of various disinfecting agents,[4] and in the course of which I determined various points relative to its biological characters. In January, 1885, I made a series of experiments with pneumonic sputum which led me to the identification of the oval coccus, usually in pairs, found in this material with the micrococcus previously isolated from my own saliva. In the paper in which I gave an account of these experiments[5] I named the micrococcus in question "Micrococcus Pasteuri," a name which has not been generally accepted, and for which I now propose to substitute the name placed at the head of this paper, "Micrococcus pneumoniæ crouposæ." In my paper last referred to, which was read before the Pathological Society of Philadelphia in April, 1885, and published in the *American Journal of the Medical Sciences* for July of the same year, I say: "It seems extremely probable that this micrococcus is concerned in the etiology of croupous pneumonia ..... But this cannot be considered as definitely settled by the experiments which have thus far been made upon the lower animals." Fränkel's first paper[6] relating to the presence of this micrococcus in pneumonic exudate was published shortly after my paper last referred to. Since the date last mentioned the extended researches of Fränkel,[7] Weichselbaum,[8] Netter,[9] Gamaleia,[10] G. and F. Kemperer,[11] and others have established the fact that this micrococcus is the usual cause of croupous pneumonia. Recognising this, we propose hereafter to designate it "micrococcus pneumoniæ crouposæ." This corresponds with the nomenclature adopted by Flügge in describing other pathogenic bacteria—e.g., micrococcus gonorrhœæ, bacillus typh. abdominalis, spirillum choleræ asiaticæ. The name "diplococcus pneumoniæ," which has been adopted by most German bacteriologists, and following them by many English and American authors, is objectionable, because this coccus is not truly a diplococcus, although commonly seen in pairs and preparations made from pneumonic exudate or from the blood of an infected rabbit. But it is also frequently seen in short chains of three or four elements, and in cultures upon nutrient agar it often forms long

[1] Sternberg: Der Mikrokok der Sputumseptikaemie. Deutsche Med. Woch., 1887, p. 44.

[2] Pasteur: Note sur une Maladie nouvelle provoquée par la Salive, &c. Bull. de l'Acad. de Médecine, 1881; quoted from THE LANCET of Nov. 28th, 1891, p. 1209.

[3] National Board of Health Bull., vol. ii., 1881; also Johns Hopkins University, Stud. Biol. Lab., Balt., vol. ii., 1882, pp. 183-200, 1 pl.

[4] Experiments with Disinfectants, Johns Hopkins University, Stud. Biol. Lab., Balt., vol. ii., 1882, pp. 201-212. Induced Septicæmia in the Rabbit, Amer. Journ. Med. Sci., Philadel., 1882, pp. 69-76. Germicide Value of Therapeutic Agents, Amer. Journ. Med. Sci., Philadel., 1883, pp. 321-343.

[5] Paper published in the Transactions of the Pathological Society of Philadelphia, vol. xii., 1885; and in the Amer. Jour. Med. Sciences, July, 1885.

[6] Bacteriologische Mittheilungen: Verhdlg. d. Vereins f. innere Med., July, 1885.

[7] Zeitschr. f. Klin. Med., Bd. xi., 1886.

[8] Ibid., Bd. x., 1886.

[9] Comptes Rendus, Soc. de Biol., Paris, Nov. 4th, 1887.

[10] Ann. de l'Institut Pasteur, tome ii., 1888.

[11] Berl. Klin. Wochenschr., 1891, Nos. 34 and 35.

chains. It is therefore more properly called a streptococcus. Gamaleia calls it "streptococcus lanceolatus Pasteuri." We prefer, however, the more general generic name "micrococcus," and do not consider it necessary that the name should be descriptive of the mode of grouping of the cocci. It may be questioned whether "diplococcus" as a generic name is entitled to a place in our nomenclature. It simply represents a form of association which is common to all micrococci, although more persistent in some than in others, and which results from their multiplication by binary division. Now some of the so-called diplococci multiply in one direction only, forming pairs, and longer or shorter chains, as in the case of the micrococcus under consideration; while others multiply in two directions, forming pairs and, by transverse division, groups of four—e.g., diplococcus citreus conglomeratus (Bumm) and diplococcus roseus (Bumm). Thus a most important generic character—division in one or two directions—is ignored by those bacteriologists who use the term "diplococcus" as a generic appellation. Again, some of the micrococci commonly described under the generic name "streptococcus" are seen, under certain circumstances, only or chiefly associated in pairs. We therefore object to the use of the term "diplococcus," as a generic name for micro-organisms of this class, as being unscientific and misleading.

San Francisco.

A CASE OF ACROMEGALY.

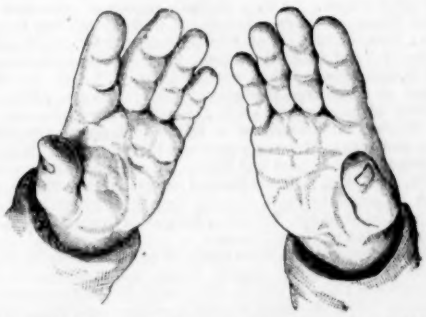
BY ALFRED G. BARRS, M.D. EDIN., M.R.C.P. LOND.,

SENIOR ASSISTANT PHYSICIAN TO THE LEEDS INFIRMARY; LECTURER ON MATERIA MEDICA IN THE YORKSHIRE COLLEGE OF VICTORIA UNIVERSITY.

THE patient, A. W——, aged twenty-eight, laundress, was born near Brough in East Yorkshire, but latterly has lived at Altofts, near Normanton. Her father died at the age of forty-three (cause unknown). Her mother is living and well. She is the only child of the marriage. In childhood she had scarlet fever and measles, and in March, 1891, she had influenza. Menstruation began when she was just over eleven years old, and was quite regular up to two years ago, since when there has been total amenorrhœa. The menstrual discharge was always scanty, and never lasted more than a day. During girlhood, although she was well grown and developed in every way, she was never strong. She was always more or less short of breath on exertion, and always had a pain in the left submammary region; still, up to four years ago, she did not consider herself to be the subject of any definite complaint. Four years ago she began to feel certain disturbances in her hands, which she describes as "nasty prickly sensations and a feeling of swelling," and there is no doubt that the hands, feet, and face were at this time getting larger. The feet also felt as though "asleep," and she frequently dropped what she was carrying through being unable to feel it, as it were. The limbs are described as feeling heavy and powerless, and are always worse after exertion—such as a day's washing. She frequently finds herself unable to fasten her clothes on account of the numbness and clumsiness of her hands, though her handwriting is as good as ever it was. On account of the increasing size of the fingers she is unable to get a thimble large enough; the thimble which four years ago she could use with ease is now not quite large enough for the little finger.

She may be described as a big woman of peculiarly cheerful disposition and good intelligence. She weighs 16 st. 2 lb., and her general figure is such as that weight would indicate. She is distinctly round-backed, so much so that her chin is carried almost on her chest. She has the use of all her limbs with the qualifications mentioned above. She is a little short of breath on exertion. Her complexion is striking, and, with the changes in the facial contour, gives her a countenance very much like that of a Chinaman of her size. The voice is husky and distinctly masculine in character. There is always profuse sweating of the palms and soles, and that of the latter is distinctly offensive. This did not exist before four years ago. The appetite is not increased. There has been absolute amenorrhœa for two years. The generative organs were not examined. The hands present in a marked degree all the characteristics of acromegaly as described by Souza-Leite,[1] and contrast strangely with the natural, or almost natural, appearances of the other parts of the upper limbs (see Fig. 1). The whole hand is enlarged without any or little departure from the natural model, and of all the parts of the member the fingers show the greatest increase in size. The digits, showing well the sausage-shape, and the nails, which look too small for the fingers, are broader than they are long, flat, and show a well-marked tendency to longitudinal striation. The skin of the hands has a sodden appearance from the excessive sweating to which she is subject; it is soft and supple, of a

FIG. 1.



rather earthy tint, and shows a normal amount of folding about the joints. The enlargement clearly affects the bones as well as the soft parts; the latter, in the palm especially, are peculiarly abundant and loose.

The size of the nose, the heavy pointed chin, the broadening of the inter-malar measurement, and the eversion of the lower lip are very striking. She has a distinctly prognathous appearance in profile. The hair is very abundant and coarse. The ears are certainly large. There is no distinct change in the bony prominences of the cranium. The neck is short and thick. The skin is much folded about the angle of the jaw and behind the ear, and there are a number of small sebaceous cysts scattered

FIG. 2.

about the region in question. The feet also are characteristic, and present changes quite similar to those in the hands—that is to say, they are large, heavy, and thick, without much, if any, increase in their length. The soft parts of the sole are curiously redundant, giving rise to a marked exaggeration of the foldings natural to the part. The epidermis is here and there thickened, and apparently about to separate (see Fig. 2). The patella is much enlarged.

The following are selected from a large number of measurements made of the head and extremities: Height of patient, 167·5 c.m.; circumference of the neck between the

[1] De l'Acromégalie, Paris, 1890.

hyoid bone and upper part of thyroid cartilage, 36·5 c.m.; circumference of head, 57·5 c.m.; breadth of head from mastoid process to mastoid process, 15·5 c.m.; length of nose, 6 c.m.; greatest distance between outer surfaces of malar bones, 14·5 c.m.; lower jaw, vertical measurement, from free border of gums to lower part of symphysis, 4·50 c.m.; greatest length of ears, 6·50 c.m.; greatest breadth of ears, 3·45 c.m.; length of forearm from the olecranon process to styloid process of ulna, 26 c.m.; circumference of forearm at middle, 25 c.m.; circumference of forearm at wrist, 19 c.m.; length of hand from wrist to tip of middle finger, 20 c.m.; length of middle finger from palmar fold to tip, 9·1 c.m.; circumference of middle finger, 7·8 c.m.; circumference of little finger, 6·7 c.m.; antero-posterior diameter of middle finger, 3 c.m.; lateral posterior diameter of middle finger, 3·7 c.m; length of nail of middle finger, 1 c.m.; breadth of nail of middle finger, 1·5 c.m.; circumference of hand without thumb, 23 c.m.; circumference of hand in obstetric position, with thumb, 28·5 c.m.; breadth of hand at metacarpo-phalangeal joint, 10·5 c.m.; vertical diameter of patella, 6·75 c.m.; greatest circumference of calf, 39 c.m.; circumference of ankle just above tip of internal malleolus, 26·5 c.m.; greatest length of foot, 25 c.m.; circumference over heel and instep, 37 c.m.; greatest width of foot, 10·5 c.m.; circumference of great toe, 10·5 c.m.; length of great toe-nail, 2 c.m.; length of great toe from proximal joint to tip, 7·5 c.m.; length of second toe from proximal joint to tip, 6·25 c.m.

These measurements were made in accordance with those used by Dr. Ross (after Marie), in his case published in the *International Clinics*, vol. i., 1891, with which they may be compared. The thorax is normal in shape, and there is no substernal dulness. The thyroid region presents no peculiarity. The general musculature is wanting in tone, but otherwise shows no deviation from normal. The tendon reflexes are normal. The cardio-vascular mechanism is normal. The urine is normal in quantity, and contains neither albumen nor sugar. So far as subjective symptoms are concerned, in addition to the sensation of numbness and pins-and-needles in the hands and feet, there is a fairly constant headache of not very great intensity. This headache comes on in paroxysms, and occasionally causes vomiting. The special senses are not complained of. My colleague, Mr. Secker Walker, was good enough to examine the eyes for me, and found the visual field and the fundus quite normal. Compared with many cases the development of the typical limb changes of acromegaly in this instance has been unusually rapid, and in this respect it resembles two interesting examples recently recorded by Guénon and Surmont.[2] These cases are illustrated by most beautiful photogravures. Souza-Leite[3] has collected from English literature six cases which he regards as true examples of acromegaly. One of these, published by Dr. Tresilian[4] under the heading "A case of Myxœdema," appears to me to be correctly classed by its author, and not to be an example of the condition described by Marie. Mr. Hutchinson[5] records a case, and says in the same publication for 1890 that he saw three cases in 1889. Mr. Ruttle[6] has recorded a genuine example with good photographs. Dr. Ross's case, previously mentioned, terminated fatally, and so gave the only opportunity which has occurred in this country for a demonstration of the morbid anatomy of acromegaly. A short account of the post-mortem changes found in this case was published in THE LANCET[7] by Dr. Judson Bury. The changes consisted in "a large pulpy tumour at the base of the brain excavating the sella turcica and extending from the optic chiasma (which with the optic tracts was much compressed) to the cerebellum. Microscopically, it had the appearance of a glioma. Each lobe of the thyroid was enlarged and contained a cyst. Some pendant masses of tissue attached to the front of the pericardium, similar to pieces of a persistent thymus, showed only fat cells under the microscope." Dr. Berkeley[8] records the last case with which I am acquainted. It occurred in the person of a negress aged sixty, the first example, Dr. Berkeley says, of the disease in the negro race, and the forty-fifth case on record.

Leeds.

[2] Nouvelle Iconographie de la Salpêtrière, tome iii., Paris, 1890, pp. 147, 160.
[3] Op. cit., 1890.
[4] Brit. Med. Jour., March 24th, 1888, p. 642.
[5] Archives of Surgery, October, 1889.
[6] Brit. Med. Jour., March 28th, 1891.
[7] June 20th, 1891, p. 1333.
[8] Johns Hopkins Hospital Bulletin, No. 16, September, 1891.

LEPROSY IN MINNESOTA, U.S.A.[1]

BY CHR. GRONVALD, M.D.

NORWEGIANS began immigrating to America more than fifty years ago, most of them going to the North-Western States—Wisconsin, Iowa, and Minnesota,—where they and their descendants form a considerable part of the population. Some of these immigrants were from parts of Norway where leprosy is endemic, and among them were some lepers. Norwegian physicians, aware of this fact, followed, to study the disease on foreign ground. Among them was Dr. J. H. Holmboe, surgeon in charge of a leper hospital in Bergen. He came in 1864, and found twelve lepers, of whom two had the first symptoms after their arrival here. He thought their health better, probably, than it would have been had they remained in the old home. In 1869–70 Professor Wm. Boeck of Christiania, Norway (joint author with Dr. Danielsen of Bergen of "Traité de la Spedalskhed, ou Elephantiasis des Grecs, Paris, 1848," published by the Norwegian Government) published his conclusions in "Nordiske Medicin. Archiv," Band iii., No. 1. He found in the three States named eighteen cases of leprosy, of which nine had the first symptoms after their arrival in this country. All were proved to come from leprous families in the old country, except one, in which he suspected hereditary influence, although admitting the possibility of contagion. He ascribes all the cases to heredity, not believing the disease contagious. He thought lepers better off here in respect of their disease than they would have been in their own country. He says: "They have come away from the place where we see leprosy may originate spontaneously, and which certainly will favour its development when the disposition is inherited. They have settled on fertile lands, where they certainly have to work hard to make a living, but they generally undergo no hardships, as we in Norway understand the term. There is no work that can be compared with that done at the midwinter fisheries in open sea off the Finmack coast, or the hardships suffered while tending the cattle on the high mountain plateaux, which causes so often bring out the latent leprosy."

Since 1870, when the above was written, investigations have been continued in Minnesota as to the number of lepers, their condition, and that of their families. There are medical correspondents everywhere in the State, who report all suspected cases to the State Board of Health, which then makes particular inquiries through its standing committee on leprosy, composed, since 1872, of the writer and the Secretary of the Board. At this date (July 20th, 1891) there are eighteen lepers known to live in Minnesota, of whom ten have the anæsthetic and eight the tubercular form of the disease.

Anæsthetic cases.—In one the disease was first recognised at least five years ago; its duration in the other nine averages nineteen years. The two oldest of this class are, respectively, seventy and seventy-four years of age, and have had the disease more than twenty-three and seventeen years respectively; while two others, sixty and fifty years of age, have had the disease thirty and thirty-two years.

Tuberculous cases.—The average duration of the disease in these cases to date is eight years, while in one the disease was first recognised a year ago. The longest duration of the disease in these cases is sixteen and fourteen years, in persons forty and thirty-six years old. The experience in

[1] This communication has been forwarded by the courtesy of Dr. Charles N. Hewitt, Secretary and Executive Officer, State Board of Health, Minnesota, U.S.A., accompanied by the following explanatory remarks: "This Report by the Committee on Leprosy of the State Board of Health of Minnesota came too late for presentation to the late Congress. It relates in very conservative language the experience we have had for the last forty years with leprosy in Minnesota. In no other State that I know of are all known lepers registered and kept under observation, and all suspected cases carefully looked into. The history of these cases has been very thoroughly studied. No further isolation than the use of their own beds and utensils is required, and this their own good sense and that of their relatives, as a rule, secures. It must be understood that the State Board of Health and the local boards have abundant power to enforce the strictest isolation, if found needful; but up to date there has not been any occasion for the use of such power, as the disease is limited to the immigrants, and has never appeared in the descendants of lepers, nor in anyone born in the State. It is under constant and careful observation, and has been for the last eighteen years under the care of the State Board of Health. The facts here officially stated will interest the students of a disease about which a good deal more has been written than is actually known."

this country has not been very long, although it already includes several generations. Such as it is, some of its results are:—1. In no children or descendants born in Minnesota of lepers—there are great-grandchildren—has there been any sign of the disease discovered, although under frequent observation. 2. Up to date no leper has been born in Minnesota. 3. In many cases the disease was not recognised for a long time after the arrival of the persons affected in this country—how long it is difficult to state, as the first symptoms are obscure, not noticed, or misunderstood; but in every single instance the leper has some time had his home in some place in the old country where the disease was endemic, while in but a single case has the possibility of infection been pointed out, and that came from a locality in the old country that has been for years a nest of leprosy. These facts, as far as they go, seem to suggest that the disease in this country is not so easily acquired as in some other countries. Looking for the cause, some points present themselves for consideration.

1. New houses with new furniture and furnishings in a new country harbour no sources of infection, and the better economical condition promotes the sense of need for cleanliness both for health and comfort,—a cleanliness which seems in leprosy to be the main reliance against contagion. 2. The commonly dry and always windy climate of this great inland plateau, with its great and sudden changes of temperature, open as it is towards the Gulf of Mexico and towards the North Pole, may perhaps make it more difficult for the *materia peccans* to fix itself on persons and things. The hot summer that opens up the pores of the skin and drains the system that way, and the cold stormy winters acting on the body somewhat differently, may have influence in that direction. That the climate must have some influence in preventing the spread of the disease seems yet more probable when we remember that the early settlers, often with a large family of children, lived for a long time in small, close, and badly ventilated log houses, closer even than they were accustomed to in their old homes. Even if they did not bring with them such sources of contagion as unclean houses and old furniture, they at least had for some time old clothes, so that it would be a wonder if old and young could have observed the cleanliness necessary to prevent contagion if the effect of climate had not been to make contagion more difficult. It seems certain that the disease, once established, runs its regular course here as elsewhere, perhaps a little slower. 3. The change in the physical constitution of people who have lived here some time, the effect of acclimatisation and of other influences, may make the individual less susceptible to contagion. In 1888 Dr. G. Armauer Hansen of Bergen, Norway, the discoverer of the bacillus lepræ, came to this country to study leprosy in the immigrated Norwegians and their descendants. He had taken the position in 1874 that contagion is the only source at present of leprosy, and that the disease is not hereditary. He gives the results of his investigations.[2]

"I cannot here relate all my observations in detail. I will only tell what I have found in regard to the occurrence, or rather the disappearance, of lepra in America (N.W. States). Of about 160 lepers who have immigrated into the three States named (Wisconsin, Iowa, Minnesota), thirteen are alive, whom I have seen myself, and perhaps three or four more. All the others are dead. Of all the descendants of lepers (and that includes the great-grandchildren of some of them), not a single one has become leprous. This is, in short, the result of my investigations."

SOME RECENT MODIFICATIONS IN OUR VIEWS OF ENTERIC FEVER AND ITS TREATMENT.[1]

BY M. A. BOYD, M.D., F.R.C.S.I., M.R.C.P.I.,
PHYSICIAN TO THE MATER MISERICORDIÆ HOSPITAL, DUBLIN.

SINCE Murchison wrote his classic treatise on Enteric Fever we have scarcely added anything clinically to the accurate and scientific description he gave of the disease. He covered in that description almost the entire ground in connexion with the disease and its history, and in the closeness of his reasoning as to its etiology he foreshadowed all that bacteriology has since discovered regarding it. In fact, it is only in its bacteriological aspect that any additions have been made to the subject, and it is from this side alone that any additional knowledge is likely to come which can finally determine the mode of its origin. The additional bacteriological data, however, we now possess have considerably narrowed the issues and enabled us to regard the disease from the standpoint of being an acute infective disease, which heretofore it was not considered, in which, like phthisis and pneumonia, a special bacillus plays the important part. Since that bacillus was discovered by Koch and Eberth, and its peculiarities and mode of growth studied, more especially by the latter observer, our views as to the etiology of the disease have considerably changed, and the time has, I think, now come when, taking advantage of the experiments of various other bacteriologists in addition, we may form more definite ideas as to its mode of propagation, to its prevalence at particular seasons, and the causation of the symptoms present in its various stages, as well as to suggest some rational means for treating it.

I shall first refer to the typhoid bacillus and its discovery. In 1880 Koch and Eberth almost simultaneously discovered in the intestines, the mesenteric glands, and lymphatics, and especially in the spleen, of patients dying of enteric fever a bacillus which, though frequently found in the intestines as the common bacterium termo, assumed at particular seasons, or owing to some alteration in the normal vital resistance of the individual, an acutely infective process, infiltrating the adenoid tissue and lymphatics of the intestine, accompanied by the chain of febrile phenomena we designate typhoid or enteric fever. Owing to the difficulty of finding a suitable nutrient medium on which to grow it outside of the body, this bacillus could not be differentiated from other bacteria inhabiting the alimentary canal, until Koch succeeded in isolating and growing it on dry gelatine plates. Since then all pathologists are familiar with its appearance and mode of growth. So far all experiments have failed in producing the disease from these cultivations by inoculation; but bearing in mind that it grows both as an aerophyte and as an anaerophyte, it may be innocuous in the former condition and infectious in the latter when in the alimentary canal, when the vital resistance of the tissues in that situation may be from some reason altered. What may produce these alterations I shall allude to presently. Gaffky, in his observations on this bacillus, has given us some valuable information as to its situation and growth. It is one of the few bacilli found to develop freely in water, and it grows abundantly in milk. He also found it in the soil through which water percolates, and it grew freely in all albuminous media. He also found it more abundant in all these media in the autumn than at any other season—a fact of considerable significance. If, however, this bacillus is found so frequently in the food we eat, the water we drink, and in our intestines, how, we may ask, is it that it does not infect the intestinal glands when present and produce enteric fever in every case? For we must all take it in at some time or another, if it is not already present in our intestines. With this question I may link two others: Why is it we do not suffer from pneumonia constantly, when we always carry about with us the germs of the disease in Fraenkel's diplococci? Or why not frequently suffer from circumscribed or diffuse suppurations, when the micrococci that produce them are frequently present in our blood and tissues? Why we do not recent investigations in bacteriology have made clear. Bacilli or micrococci are in themselves harmless, either in the blood or tissues, until the vital resistance of some tissue is lowered, from either functional alteration or injury, when they readily find a suitable soil in it on which to grow and multiply. It is by this growth and the chemical products generated during it that the mischief is produced, and the poisoning of the tissues around that are most susceptible to its action afford a further field for the growth of these micro-organisms.

Let me take first the experiments of a distinguished physiologist, and secondly the course of a fatal disease which clinically we are only lately becoming familiar with, to illustrate my meaning. Professor Kocher of Berne, in making experiments on animals by destructive injury to tissues down even to the marrow of bones with a hot iron, could not produce septic inflammation as long as the animal experimented on was healthy, but if he lowered the vitality

[2] Virchow's Archiv, Band cxiv, 1888.

[1] Read before the Medical Section of the Academy of Medicine in Ireland, Dec. 18th, 1891.

of it by feeding it on putrid matters, permitting thereby septic micrococci to enter its blood, a septic inflammation was at once produced. The other disease I have alluded to in illustration—namely, septic or suppurative endocarditis—we know arises from either the staphylococcus or streptococcus when present in the blood from any accidental cause finding a nidus in an inflamed endocardium or damaged valve, and the chemical product of its growth is then wafted in the blood current to set up mischief in other situations, where, from anatomical causes or lowered vital resistance, the blood and tissues cannot overcome its invasion. The germs of typhoid fever, like all other septic germs, are now regarded as in themselves harmless as long as the tissues with which they are in contact are healthy, else how can we explain the immunity from the disease that exists in healthy individuals who constantly either receive them through food or drink into the alimentary canal, or have them as a normal and constant resident in that channel?

This brings me to the vexed question of the etiology of the disease. If we take it for granted that the bacillus of Eberth is by its infiltration of the glandular tissue of the intestine the cause of all the mischief (and apart from the absence of the inoculation evidence most pathologists are agreed that this is so), what are the conditions that favour or produce its acute infection of those glands? We have first the evidence that this bacillus is found growing most luxuriantly—and we must presume consequently more virulent, and more capable of making a vigorous battle for its existence—in the autumn. But it must find the tissues with which it comes in contact in a weakened condition to get the upper hand in the struggle. Are the intestines at this period of the year in a more weakly condition than at any other, and, if so, from what cause? I think we can answer that question in the affirmative. Most of us are familiar with the gastro-intestinal troubles that are characteristic of the early autumn months, the gastro-intestinal catarrh especially, the catarrhal or autumnal diarrhœa, and the frequency of so-called bilious attacks at this season. How these catarrhs are produced we have a ready explanation in the rapid fall of temperature in the evenings after perhaps a warm mid-day, when the action of the skin is suddenly checked, and no additional precautions as to clothing adopted. All hospital physicians are familiar with the sudden onset of bronchial catarrhs at this season, also from the same cause, and the rapid filling of hospital wards with cases of asthma, emphysema, and fresh broncho-pneumonia in patients the subjects of phthisis during the previous summer and spring. Now let us see if this gastro-enteric catarrh is a usual precursor of enteric fever. Murchison, with that acute power of observation which was characteristic of him, mentions it as a most usual symptom, preceding and accompanying the fever in its early stages; and he further adds that catarrhal diarrhœa was frequently present, preceding the fever, and that it was often difficult to say whether the disease would remain catarrhal diarrhœa or end in enteric fever. Now it seems to me that this catarrh, in addition to being brought about by atmospheric changes or food, may be produced also from the absorption of the chemical products of the typhoid bacilli growing on the intestinal contents, when present in large numbers, in either food or drink containing them; and that this ptomaine or toxine was only the weapon they used, as Professor Burdon-Sanderson expresses it, in their struggle for existence, to weaken the vital resistance of the tissues with which they were in contact, and make it fall an easy prey. Why, however, should the glandular tissue be the first overcome in this struggle? The reason seems to me obvious, looking at it from a pathological point of view. Adenoid tissue is endowed with a very poor vitality, and very little power of resistance, or of repair, when infiltrated or choked from any cause. We see this when it is attacked by a similar bacillus, the tubercular one, whose life history and the readiness with which it infiltrates and destroys glandular structures being somewhat similar to the typhoid one in many ways. The epithelial shedding and proliferation of the mucous membrane which take place must also weaken the defences against the bacillary invasion. The bacilli find the glandular tissue in a condition of derangement from the effects of this catarrh, and it becomes the centre of their habitation. That this invasion is sudden and followed by rapid changes in the glands there can be no doubt, Murchison having found infiltration and swelling of the glands in the case of a patient dying on the second day of the disease, and other observers bear similar testimony. The entire process in connexion with the gland so far as the typhoid bacillus is concerned, from the time of invasion to death or disablement of the gland, is over in fourteen days—the normal time of enteric fever from a pathological point of view. After this period, however, a new set of enemies appear on the scene in the shape of the suppurative micrococci, which, forming colonies on the injured or necrotic tissues around the glands, begin to generate their peculiar toxines, producing the hectic character of the symptoms and temperature with which we are all familiar after the first fortnight of the disease; so that we must regard enteric fever as the result of the growth in the intestines of two sets of micrococci. The so-called typhoid bacilli producing the symptoms during the first fortnight, and the suppurative micrococci producing the characteristic symptoms of its further stages. That other micrococci, as well as these latter, occasionally infect the patient from the intestinal canal there can be no doubt, and I have at present under my care in the Mater Misericordiæ Hospital a patient with a well-marked attack of erysipelas of the face in the fourth week of his enteric fever.

If recent bacteriological work has enabled us to grasp these facts with regard to the disease, we may ask ourselves what practical deductions can we draw from them so as to enable us to treat it. Looking at the disease as primarily a catarrhal one of the intestines, and secondarily as one of septic poisoning, our treatment resolves itself into suitable diet and antiseptics. We know already how all-important is the treatment of enteric fever by bland and unirritating diet, and such as will be mainly absorbed by the stomach and duodenum, leaving little to be dealt with by the lower part of the small intestine. The medicinal treatment of typhoid fever by antiseptics is now receiving that amount of attention which our more perfect knowledge of its bacteriological origin would suggest, and we see occasionally in the medical journals glowing accounts of the success of this method of treatment in the hands of some; while others confess it has not realised their expectations. As far as I am concerned, I have used this method of treatment for several years in both hospital and private practice, and have every reason to be satisfied with the results. I do not profess to believe that it will abort a case of typhoid fever when the characteristic fever has begun, but I do assert that it will prevent in the majority of cases the septicæmia—for it is nothing but septicæmia—which we have to deal with after the second week of the fever is passed. The typhoid bacillus has by this time done its work, so far as the intestinal glands are concerned, and hereafter we have only saprophytic bacteria and their effects to deal with. The characteristic hectic type of temperature during the third and subsequent weeks of enteric fever, such as we have in connexion with suppurating cavities in the lungs or elsewhere, shows this to be the case. In seeking for a suitable antiseptic for this purpose we must choose one which will fulfil the following objects. It must first exercise its effects in the intestinal canal, and not in the stomach. Its action must be thorough, antisepticising not alone the contents of the bowel, but it must permeate the intestinal wall as well, where septic micrococci may have already established themselves, and even enter the blood. To fulfil these conditions the form of antiseptic must be, in my opinion, a gaseous one. We know how readily the intestines absorb gases and pass them into the blood. The antiseptic I am in the habit of using is chlorine in an alkaline solution, as in this form it mingles best with the contents of the intestines, which in enteric fever exhibit a strongly alkaline reaction. This treatment is not original, as Murchison, who expresses himself in general as dissatisfied with antiseptics, speaks favourably of chlorine, and regarded it as an admirable method of treatment. He administered it in an acid solution, which in my experience is not so satisfactory. That this method of treatment produces a fall in the temperature and makes the type of the disease milder there can be no doubt, and in over a fourth of the cases when begun early brings the febrile process to an end about the fourteenth or sixteenth day. Murchison, in his careful statistics, found only seven cases out of 200 to terminate on the fourteenth day by the ordinary method of treatment, so the cessation of the fever by this method of treatment in such a large percentage must be more than a mere coincidence. I do not claim for it that it is the best form of intestinal antiseptic, as

more extended experience may enable me to procure a more beneficial one, and I hope on some future occasion to bring before the profession the results of my experiments on this subject in conjunction with our bacteriologist at the Mater Misericordiæ Hospital. I have not in these notes entered the broader field of etiological theories by trying to explain how enteric fever arises through the medium of sewers, or sewer air, or why it is more prevalent among the wealthier classes than the poor, or whether it can arise as a miasma-producing infection through the air. These are matters that I did not intend should enter into the scope of my paper, as I have been content to regard the disease from the bacillary point of view alone, and to see in it sufficient explanation of all the group of phenomena which we call typhoid or enteric fever.

Dublin.

ATTEMPTED LITHOTRITY IN A BOY; SUPRA-PUBIC LITHOTOMY.

By W. T. CLEGG,

SENIOR ASSISTANT SURGEON TO THE LIVERPOOL HOSPITAL FOR SKIN DISEASES, ETC.

R. P——, aged ten, but small for his age, was sent to me, suffering from stone in the bladder, in October, 1891. When seven weeks old the patient had retention of urine, which required catheterisation, and he has had urinary trouble more or less ever since. He walks bent forwards and cautiously. He has retracted testicles, a long foreskin, and a prolapsed rectum. His clothing has a urinous odour. The urine is fetid. On Oct. 7th I attempted to pass a No. 10 Weiss completely fenestrated lithotrite, to ascertain the size of the urethra and of the calculus. The meatus was freely incised, but it would not pass. I then passed a No. 6 Weiss fenestrated lithotrite, which was gripped by the urethra all along, and a large calculus was discovered. Although under chloroform, violent spasmodic straining, amounting to emprosthotonus, even involving the sterno-mastoids, accompanied every movement of the instruments. On Oct. 8th the boy was placed thoroughly under the influence of chloroform by Dr. Stevenson. Dr. Tisdall assisted me, and Drs. Barnes, German, and Price, dropping in as the operation proceeded, were also kind enough to help in various ways. About two ounces of boiled water were injected into the bladder, and a No. 8 Weiss fenestrated lithotrite was passed carefully, but with some force, especially when passing the triangular ligament. The instrument was such a tight fit for the urethra that when moved about the penis moved with it, and this greatly hampered me. The stone would not fall into the jaws of the instrument. I soon found out that it retained a position on the left side of the bladder, and was always to be found there. The only manœuvre that would enable me to grip it was with the lithotrite held vertically, its beak just inside the bladder and turned to my right. I seized the stone and carried it towards the centre of the bladder, locked the male blade, and screwed down upon some rather soft outer coating, coming to a stop as the hard stone was reached. I could trust the lithotrite, and so still screwed on with full force, when with a jolt the stone escaped. The length, weight, and shape of the stone and the small jaws of the instrument fully accounted for this. Three times this occurred. The phosphatic material that came away was mixed with offensive mucus; the urethra was small and in a state of spasm; the stone was large and hard, therefore I reluctantly gave up, thinking it more discreet to do supra-pubic lithotomy. We had no rectal bag, nor did I think one necessary. A light chair was inverted on the operating table, and the boy arranged along the back of it. His head only remained on the table, his knees were bent over the spindle joining the two back legs of the chair, and retained in that position by clove-hitch knots. A sponge was thrust into the rectum lest the contracted condition of the recti and bladder should prevent the viscera gravitating freely enough into the arch of the diaphragm to draw the bladder sufficiently out of the pelvis. This proved to be quite unnecessary. I cut down upon and into the bladder and extracted a stone two inches long and one and one-eighth inches broad, weighing 370 grains without the débris. On first putting the finger into the bladder the impression was that the stone lay in a pouch owing to the contraction of the bladder walls around it, but after its removal no pouch remained. The bladder opening was anchored to the opening left in the linea alba so as to shut off the bladder discharge from the neighbouring tissue. On Friday, Oct. 16th, the boy passed urine through the urethra, and about four weeks later the abdominal wound had healed. The boy is now attending school, and there is a wonderful change in his appearance. The anchoring of the bladder to the linea alba has not given rise to any symptoms.

Remarks.—Lithotrity has been for some years a hobby of mine; I am accustomed to handle the weapons; therefore it will be granted, I think, that there was good cause for abandoning the attempt, and this makes the case worth reporting. Strange to say, lithotrity is as yet the rule only with the few; yet it is almost always applicable to old and young, male and female. It is, in my opinion, the safer proceeding where the kidneys are damaged. An elderly gentleman with damaged kidneys was to have been submitted to me for lithotrity. Meanwhile, he was advised to go elsewhere, was cut, and died the same evening. During the past two years two other similar cases have come to my knowledge. Lithotrity could not have met with worse success in these cases. The completely fenestrated lithotrite is the only form required, and numbers 6, 8, 10, A, B, and C, form a series sufficient to meet every requirement. I much prefer the wheel and button action—the Weiss-Thompson form to Bigelow's form of handle. I have used both, and found the bruising of the palm about the same in each; but with the Bigelow pattern the fluted surface of the lock mechanism makes the skin over the ends of the right index finger and thumb very tender when in use for an hour or more. There is more lurching, too, in working this lock. The jamming of the male blade, to which Mr. Cadge refers in his recent lectures, occurred to me on one occasion whilst sliding the male blade backwards and forwards to ascertain whether it was free after withdrawal from the bladder. I sent it up in its jammed condition to Messrs. Weiss and Son, and they wrote complaining that the instrument had been very badly treated. This remark gave me the clue to the cause. A visitor had taken up the instrument previously to the operation, and had allowed the male blade to fall on the floor. It had bent slightly upwards out of the straight and a small hard fragment of stone had worked under the heel of the male blade preventing any further movement backwards or forwards. The simplest and most convenient of aspirators is the latest Bigelow pattern (Fig. 1950 of Weiss' Catalogue). I do not know of a single fault in it. It has no trap; none is needed. Fragments in the glass bulb are very little affected by the currents passing overhead, and blood or mucus obscures the contents of the glass bulb last. This aspirator can be completely and readily filled from a jug by removing the funnel from the supply-pipe and attaching a foot or two of rubber tubing. Eighteen months ago, in conjunction with Dr. Price, I crushed a stone in the bladder of a seafaring man. I used on that occasion an excellent aspirator, but it required to be immersed in a bucketful of water to fill it, and there was not that quantity of hot water in the house. The filling and replenishing occupied more time in this case than the lithotrity. The patient, a man aged thirty-six, returned to his ship on the third day after the operation, and resumed his occupation without permission and without injury. It is a good plan always to have a second aspirator fitting the catheters. It saves waiting for the refilling. A friend operating on one occasion in private, an unfortunate movement of the patient threw the aspirator on to the floor, smashing the glass bulb. The evacuation had to be finished by plugging the opening which should have been occupied by the glass bulb.

I will conclude by mentioning two points that have impressed themselves upon me. In the first place, the slight symptoms often present with a large calculus; the largest I have met with occurred in a man suffering from strictured urethra, and gave rise to no special symptoms. In the second place, that calculi, however hard, owing to lamination, burst asunder in the jaws of the lithotrite much more readily than might be supposed, and seem to try the instrument less than an equal amount of red sandstone.

Liverpool.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THE REACTION OF URINE WITH ETHER.

BY ANDREW H. SMITH, M.D.,
PROFESSOR OF CLINICAL MEDICINE AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL; PHYSICIAN TO THE PRESBYTERIAN HOSPITAL.

IF a specimen of urine, taken promiscuously, be thoroughly agitated in a test-tube with half its bulk of pure sulphuric ether, there will result in most instances an abundant white foam. If now the tube be corked and set aside, this foam rises to the surface and gradually condenses into a greyish gelatinous plug, so firm, it may be, that the tube can be turned upside down without disturbing its contents. In another smaller proportion of cases no foam will result from the agitation, and the ether will immediately separate from the urine and form a clear layer above it. In some instances a second prolonged agitation after the lapse of a few moments will produce the reaction described. In other cases it may be obtained by adding a few drops of acetic acid and shaking the tube again very thoroughly. It will always be noticed that when the reaction occurs the fluid begins to clear first at the bottom, and the clearing progresses upward. When the reaction does not take place the order is reversed, a clear layer of ether appearing first at the top. Pending a thorough chemical investigation as to the nature of the substance thus separated from the urine, I find that the reaction occurs in urine which does not respond to any of the tests for albumen or for peptones. It occurs also in urine from which the phosphates have been removed, and it cannot be obtained with simple solutions of urea or of the urates. It is most abundant in the urine of those who have a good appetite and good digestion, and is usually absent after long fasting, or when the diet is greatly restricted. From these facts it seems probable that it represents an excess of nutritive material taken into the blood and thrown off by the kidneys, and not a product of disassimilation. Albuminous urine responds to the test in the same way and under the same conditions as normal urine, but if the patient is on restricted diet and the urine does not react to the test, it can be made to do so by adding nitric acid and filtering out the resulting precipitate. A portion of the albumen is redissolved by the acid, and at the time so modified that it is acted upon by the ether. This is shown by the fact that if the albumen be removed by heat and filtration before the acid is added, the reaction cannot be produced; but if a drop or two of acid be placed upon the filter, the filtrate immediately responds to the test. The same effect may be produced by acid spontaneously generated in the urine, so that a specimen of albuminous urine which will not show the reaction while fresh may do so after the acid fermentation has progressed for twenty-four or forty-eight hours.

It is possible that the presence of this material in the urine, and its peculiar reaction with ether, may explain some cases of anuria after prolonged etherisation. The ether being eliminated by the kidneys and mixing intimately with the urine in the tubules, affords all the necessary conditions for plugging the latter with gelatinous material, too firm to be displaced, suspension of function necessarily following. Until we know more of the possible reactions of this substance, it will be well to receive with caution the results of some of the more "delicate" tests supposed to detect the presence of minute proportions of albumen.

New York.

TWO CASES, INTERESTING FROM THE WAY IN WHICH DEATH WAS BROUGHT ABOUT.

BY H. D. ROLLESTON, M.A., M.D.CANTAB., M.R.C.P.,
PATHOLOGIST TO ST. GEORGE'S HOSPITAL.

CASE 1.—*Suicidal bullet wound; bullet compressing the right internal carotid; cerebral softening; death.*—J. C—— was admitted to St. George's Hospital under Mr. Rouse in an insensible condition with left hemiplegia, death occurring within twelve hours. Twenty-four hours before admission the man had shot himself in the mouth with a pistol. At the post-mortem examination there was no wound of the dura mater, and the sinuses were normal. There were ecchymoses on the under surface of the right frontal lobe. The lenticular and caudate nuclei and the optic thalamus on the right side were in an extreme state of white softening; this softening did not extend to the cortex. The left hemisphere of the cerebrum was normal. On removing the dura mater from the middle fossa there was found to be a fracture at the apex of the right petrous bone. There were some small fragments of bone and a little dry blood-clot. Lying in contact with, compressing but not having perforated, the internal carotid artery was a mass of lead three-eighths of an inch long and a quarter of an inch broad and deep. The bullet then had come to rest on the apex of the petrous bone of the right side, and had compressed the internal carotid artery, thus causing extensive softening of the right cerebral hemisphere and death.

CASE 2. *Sarcoma of the right testis; secondary growths in the lumbar glands; thrombosis of the inferior vena cava; embolism of the right pulmonary artery; sudden death.*—A. D——, a well-nourished man aged twenty-two years, was brought in dead into St. George's Hospital. The following history was obtained from his companion. He had been in Hyde Park, lying down on the grass; on getting up and walking a few yards he fell to the ground with a cry of pain, pressing his hands to the front of his chest; he became "black as jet" in the face, and died very speedily. At the post-mortem examination there was a congenital inguinal hernial sac on the right side which contained omentum, but which had evidently contained some coils of adherent small intestine at some former time. The right testis was enlarged to about three times its normal size, was knobby on the outside, and on section was seen to be occupied by a hæmorrhagic new growth, which microscopically was a sarcoma; the tunica vaginalis was not adherent. The glands around the inferior vena cava were greatly enlarged, from the presence of new growth like that in the testis. These glands infiltrated the wall of the inferior vena cava below the entrance of the right renal vein, and produced an adherent clot which narrowed but did not occlude the lumen of the vessel. Lungs: Left somewhat œdematous; no clot in the left pulmonary artery or its branches; right normal; the right pulmonary artery contained a firmly fixed but not adherent clot, which on section resembled that in the superior vena cava. Brain, heart, and other organs healthy. The points of interest are (1) the early sarcomatous disease of the testis, setting up considerable secondary growths; (2) the production of pulmonary embolism.

PERFORATION OF THE MASTOID FOR MIDDLE-EAR DISEASE.

BY ALEX. BLACK, M.B., F.R.C.P. EDIN.,
SURGEON TO THE EYE, EAR, AND THROAT INFIRMARY OF EDINBURGH.

OF the methods employed in opening the mastoid, antrum, and middle ear for disease of these cavities, the most usual are those by means of the hammer and small chisel and gouge, and of the trephine. The objections to the first of these methods seem to be chiefly in the amount of concussion upon the interior structures of the cranium beneath the seat of operation, and in the danger of wounding the lateral sinus in the event of too much force being used, or of a splinter of bone being detached and penetrating it. The other usual method—that of the trephine—seems to have the usual objections of trephining operations—namely, constant adjustment of the cutting edge and the removal of the disc of bone. To obviate these objections it was suggested by Dr. Hunter Mackenzie in several recent cases to use the instruments designed by Mr. Watson, dental surgeon, for the purpose of boring into the antrum of Highmore through the alveolus of the superior maxilla. We acted on this suggestion, and as the results proved eminently satisfactory in all the cases, both as regards the ease and safety with which the operation was performed and the good after results from the free drainage established between the mastoid antrum and middle ear and the external auditory meatus, it occurred to us that the instruments might be found useful by others. They consist in a gimlet with a small point, and the diameter for children of the screw of about one-sixth of an

inch. This is cautiously inserted into the bare bone, and slowly turned by the hand till the cavity is reached. When this occurs, use is made of a cone-shaped burr, in order to enlarge the opening. These instruments can be made of any size, so that any dimension of opening can be made. After an opening of sufficient size has been made, and a free drainage established through the external auditory meatus, a metal wire twisted into a close spiral is inserted into the bone, and kept till the discharge has almost disappeared. During and after the operation the parts are constantly irrigated with an antiseptic solution. In none of the patients was there any rise of temperature or untoward result after the operation. All the cases were instances of chronic suppurative inflammation of the middle ear with mastoid abscess, and of some months' duration. The ease and safety with which the operation is performed, and the good afterwards resulting, seem to us to widen the indication for its performance. The instruments are made by Mr. Young, Forest-road, Edinburgh.

Edinburgh.

CASE OF PUERPERAL ECLAMPSIA.

By JAMES GILROY, M.B., C.M.

ON March 7th, about 10 P.M., I was called to see Mrs. F——, a patient expecting her confinement about this date. She was over forty years of age, and a primipara. The patient was threatened with abortion in June last, but under opium and careful carrying out of instructions it was averted; and she had gone on, as she thought, perfectly well until three weeks ago, when her feet swelled a great deal, but nothing occurred to make her seek advice. This evening I found great cause for alarm. The patient was seized about 8 P.M. with severe pain in the head, blindness, and delirium. So far as I could elicit, these symptoms came on suddenly. When I arrived she wandered slightly in her talk, but was sufficiently conscious to tell me she had been very ill, but her head now felt greatly relieved, and although she could not see me distinctly she knew me quite well. Her attendants informed me she had two fits in close succession after her husband left to summon me about 8.30 P.M. Examining the pupils, I found them widely dilated and applying a candle closely produced no effect whatever. I examined per vaginam, and found the os a mere chink, totally undilated, and admitting the point of the examining finger very much as a thimble would. I procured a little of her urine, which had been scanty and voided at frequent intervals, and found it loaded with albumen. On heating it became a mass of jelly consistence at once. Her face had all the characteristics of kidney embarrassment, pale, waxy, and puffy eyelids, pulse moderate in fulness and strength, about 76 per minute. I decided to try chloral and bromide of potassium, having found it work well in a previous case where convulsions ensued after delivery. Accordingly I administered twenty grains of chloral hydrate with twenty grains of bromide of potassium, and after waiting some time, and being uncertain as to the advisability of inducing labour, I gave instructions that the patient should receive a similar dose six hours later, after which I would see her again; and in any case, if convulsions threatened or occurred, that I should be called.

I saw her again at 10.30 A.M. on March 8th. The nurse told me she had slept very little or not at all, but had had no more seizures since I left; so that the two she had before I saw her were all that had occurred so far as is known. I did not like the aspect of the patient that day. She was dusky in the face; pulse over 100; breathing rather hurried, approaching dyspnœa. There being every indication therefore of a serious issue, I resolved to induce labour, and with that view passed a gum elastic catheter into the uterus. After waiting about an hour and a half and no contractions occurring, and as the os was quite undilated, I tried cautiously to dilate it. The breathing of the patient discouraged me from using chloroform; and as she had vomited freely during the night I hoped to obtain a moderate degree of dilatation, and then administer a little chloroform, pass the instruments, and deliver. I had the aid of Dr. W. B. Crichton, which is a division of the anxiety one naturally feels in these terrible circumstances. I was proceeding, as I thought, fairly, and the os yielding moderately well, when, with lightning swiftness never to be forgotten, the patient, who all the morning had been conscious and cheerful although now and again slightly rambling in her talk, but greatly better than on the previous evening, stopped breathing. There were no clonic or tonic contractions visible. The lips did not alter much, if at all, but a bluish tinge was seen round the mouth. We tried to restore her by artificial respiration, and once or twice clung to the hope of being successful as she made one or two spasmodic efforts at breathing, but at length it became too apparent all was over with her. We immediately thought of the child, but the friends would not allow post-mortem operation. The case demonstrates the difficulties of deciding upon treatment, and the risks to which any line of treament is open. I did not deem the case one for bleeding.

Waterbeck, Dumfresshire.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collecta habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

ST. GEORGE'S HOSPITAL.

CASE OF COMPOUND DISLOCATION, WITH VERSION, OF THE ASTRAGALUS; REMOVAL OF THE BONE; RECOVERY.

(Under the care of Mr. PICK.)

THE following case of dislocation of the astragalus from all its articulations, with version of the bone, seems worthy of being placed on record. As will be seen in the account of the case, the bone was so nearly severed from all its connexions that it required only the division of two small bands of ligamentous tissue to completely free it from all its attachments, and a very little extra force would have caused it to project from the wound and fall to the ground entirely detached from the foot. In this respect it nearly resembles the classical case referred to by Norris,[1] where the bone was found lying on the ground some distance from the patient. The account that the man was able to give of the accident did not show very clearly the exact mode of its causation; but, as Mr. Barwell has pointed out, it would appear that it is produced by violent twists of the foot when it is at right angles to the leg, and in a position neither of extreme flexion nor extension. For if the foot is acutely flexed, at the moment the force is applied dislocation backwards results; and, on the other hand, if the foot is hyper-extended, the result is dislocation forwards. Mr. Barwell has also very justly pointed out that there must be a certain relationship of strength between the ligaments of the ankle and those connecting the astragalus and os calcis. For if the latter be weak in proportion to the former, subastragaloid dislocation would alone occur, the ligaments of the ankle-joint, on account of their greater proportional strength, escaping rupture, and thus maintaining the ankle-joint intact. On the other hand, if the ligaments of the ankle-joint were the weaker, they would give way, and dislocation at this articulation alone result, the astragalo-calcanean joint escaping injury. We are indebted to Mr. L. Moysey, dresser of the case, for the following notes.

T. S——, painter, aged forty-five, was admitted into St. George's Hospital on Nov. 7th, 1891. He stated that shortly before admission, whilst standing on a scaffold painting a ceiling, the scaffold gave way, and he fell to the ground. In his fall his foot caught the end of a plank and twisted it. He states that he has always enjoyed good health, and has never had any illness, except ague, thirty years ago, in the West Indies. He has had no specific disease, and has always been a moderate drinker. His family history was good. When admitted he was faint and collapsed, with a small, weak, and running pulse and a pale face. The anterior part of the foot was turned inwards at the mid-tarsal joint, so that it was at about a right angle with the axis of the leg. On the outer side of the foot was a wound, extending from the front of the ankle-joint, just ex-

[1] American Journal of the Medical Sciences, 1837, p. 383. Case under the care of Dr. Barton, fatal from gangrene of limb and tetanus.

ternal to the tendon of the extensor longus digitorum, obliquely downwards and outwards to just below and in front of the external malleolus; through this was protruding the head and neck of the astragalus. This bone was, therefore, rotated on a vertical axis drawn through the centre of the bone, so that the semilunar facet for the internal malleolus was directed forwards and the triangular facet for the external malleolus backwards, and the long axis of the superior saddle-shaped articular surface was directed from before backwards, instead of in a transverse direction. The bone was held in this position by a part of the external lateral ligament and a band of fibrous tissue on the inner side of the bone. These were divided, and then the bone was easily withdrawn with the fingers. The astragalus was intact with the exception of a slight graze on the head of the bone. There was no fracture of any other bone, and but slight bruising of the soft parts. The cavity left by the removal of the bone was thoroughly irrigated with a solution of corrosive sublimate, a drainage-tube inserted, and the wound closed and dressed with double cyanide gauze. The limb was placed on a back splint with a foot piece. The subsequent progress of the case requires no comment. There was a little quiet suppuration, which somewhat retarded recovery, but otherwise he went on well, and was eventually discharged with a sound and useful limb.

DEVONSHIRE HOSPITAL, BUXTON.

FRACTURE OF THE ANTERIOR INFERIOR SPINE OF THE ILIUM BY MUSCULAR ACTION.

(Under the care of Mr. SHIPTON.)

THE case which Mr. Gibson (to whom we are indebted for the notes of the case) describes is a most unusual one, and our works on surgery, general or special, contain no references to such an injury. Fracture of the anterior superior spine as a consequence of direct injury is not uncommon in our accident wards; and there are at least five recorded examples of separation of that process by muscular action. Fracture involving the anterior inferior spine, except as the consequence of gunshot injury or a severe crush of the ilium, is apparently unknown.

E. M——, aged thirty-five, bricklayer's labourer, was admitted into this hospital on Dec. 12th, having fallen from a scaffold sixty feet high. He was found to be in a semi-conscious condition. The right leg was more everted than the left one, the front part of the right thigh had lost its rounded outline and was a good deal flatter than the other. There was no fracture of any limb. A catheter was passed without difficulty and four ounces of clear urine drawn off. On grasping the ilia, no mobility or crepitus could be made out. On carefully examining the pelvis, a piece of the anterior edge of the right ilium, about one inch in length and three-quarters of an inch in breadth, comprising the anterior inferior spine with the origin of the short head of the rectus, was found to be detached from the ilium to the extent of about a quarter of an inch, and could be easily moved between the fingers. There was no redness or ecchymosis on the skin over the part, but a slight discolouration appeared three days later simultaneously with very marked ecchymosis around both eyes. The rectus was relaxed, and later on, when the patient had recovered consciousness, he was asked to flex the right thigh, which he did with difficulty and pain—situated at the seat of fracture,—but only raising the thigh a few inches from the bed; and the anterior inferior spine was found to be still further separated from the rest of the bone. No other injury was found. On obtaining the history of the accident from the patient, it was ascertained that whilst carrying a hod full of bricks over his left shoulder his foot slipped, and to prevent the bricks falling on him he threw the hod backwards, falling on "all-fours" into a quantity of soft shale, sixty feet below. This statement was corroborated by a fellow-workman who saw the accident. The patient made an uninterrupted recovery, a good deal of callus being thrown out around the fracture.

Remarks by Mr. GIBSON.—The case is of interest, as the fracture appears to have been caused by muscular action. I have come to this conclusion on consideration of the following facts: (1) The history of the case shows that the right rectus must have been suddenly and forcibly brought into action when the patient threw the hod over his left shoulder, so as to help to steady the pelvis, and so prevent him from falling backwards. The long head of the rectus was probably ruptured simultaneously. He fell on his hands and knees into a quantity of soft shale, which partially buried him, and therefore it is improbable that the injury was caused by the fall. 2. The absence of redness or bruising until the third day, when a little discolouration appeared over the part simultaneously with considerable ecchymosis around both eyes. 3. The anterior inferior spine is well protected from direct violence on all sides by muscle, and on the outer side, where it is most accessible to injury, it is shielded by the great trochanter as well. 4. Absence of evidence of any further fracture of the pelvis. Having never heard of a similar fracture by muscular action I venture to record the case.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Operative Treatment of Congenital Dislocation of the Hip.

AN ordinary meeting was held on March 22nd, the President, Mr. Timothy Holmes, in the chair.

Mr. BARWELL communicated a paper on the Operative Treatment of Congenital Dislocation of the Hip. The condition thus called was, as many anatomical investigations had shown, absence, more or less complete, of the acetabulum, usually combined with a certain truncation of the head of the femur. The well-known signs of the deformity were merely mentioned, and a symptom not hitherto noticed was described and illustrated by a sketch rapidly taken from a patient—namely, when she bowed forwards with straight knees till the back of the pelvis was nearly horizontal the great trochanters, or the trochanter in unilateral cases, projected upwards and outwards from the ossa innominata, and lay in some cases actually higher than those bones. Stress also was laid on a jolt which occurred when the limb was drawn down far enough to bring the head of the bone into its normal situation. Two prevalent methods of treatment were described: the one by division of the rotators and capsular muscles, originating with M. Guérin, and recommended by Mr. Brodhurst; the other by long-continued recumbency with extension, inaugurated by M. Pravaz, followed in America by Dr. Buckminster Brown, and in England by Mr. Adams. According to the last-named the recumbency must occupy two or two years and a half, and be followed by a year and a half of instrumental treatment and of go-cart and crutches. It must begin, in order to have chance of success, in infancy, or very little beyond that period. The writer stated that this deterrent period of treatment might be very much shortened, the chances of success greatly increased, and cases seen at a later age might be cured by the division of certain muscles. But he contended that the rotator and capsular muscles were valuable aids in keeping the head of the femur *in situ*, and must be left intact; while the muscles which ran from the pelvis to the femur, in a direction almost parallel to the axis of the latter bone, being those which, in the absence of an acetabulum, propelled its head upward on to the dorsum ilii, were those which should be divided. Indeed, the extension which Pravaz and his followers carried out for such lengthened periods could only avail by counteracting this action of those muscles, which might be much more surely, rapidly, and as safely overcome by division. Three cases were given, the oldest beginning treatment at eleven years of age, in which the author divided the adductors &c., and allowed the patients to get up in a few weeks, and which were completely successful. A letter from the first patient was given, describing her activity and power. The author showed one of the younger patients.

Mr. BRODHURST said that in one of the cases, though the result seemed to be exceptionally good, yet there appeared to be some doubt whether it had ever been one of congenital dislocation; the femur also in that instance was short, and he did not remember ever to have seen a shortened femur in association with this malady. The author had made a mistake with regard to Guérin's opera-

tion; the latter only divided the tensor vaginæ femoris, the gluteus medius, and the anterior part of the gluteus maximus; a weight of five kilogrammes had then been attached to keep the bone in position. In 1865 he operated on a case of one-sided congenital dislocation of the femur. He divided the gluteus medius, the trochanteric attachment of the gluteus maximus, the psoas and iliacus, the gemelli, and the obturators; he then drew the bone down, and found that it remained in that position. It was then fixed on a splint for two months, after which all the movements of the limb could be effected perfectly. At the end of twelve months no apparatus was used, and there was no deformity at all. In other cases, where the age was more advanced, he had divided the abductor longus, but he had never resorted to division of the rectus femoris.

Mr. NOBLE SMITH had treated these cases at first with a raised shoe, and with this in many the deformity had not increased, though in some this had taken place. The cases treated by Pravaz's method had given interesting results, but it necessitated very prolonged rest and expensive instruments. In one case in which he had adopted the rest treatment without the instruments he got a good result. He preferred to apply a Liston's long splint with a perineal band, which was better than extension by weights, for the latter continued to pull down the limb beyond what might be required. He would advocate the treatment by prolonged rest in all cases except those in which there was contracture of the muscles.

Mr. MUIRHEAD LITTLE referred to a case under his care in which the patient was reclining on a long couch with cord extension. After a few weeks there was no difficulty in overcoming muscular action and keeping the trochanters in position. After nine months of this treatment it was found that the trochanters remained in position when the weights were removed, and he hoped for a good result.

Mr. GODLEE thought that in such a debate a word should be said regarding Professor König's operation of manufacturing a new acetabulum. He made a curved incision above the trochanter, and then with a chisel reflected a portion of the ilium downwards towards the capsule. One of the cases he had so treated died of diphtheria, and he found at the necropsy, performed some time later, that a very good acetabulum had been formed.

Mr. BARKER inquired what occurred to the dorsum ilii when the femur had been held in position against it for some time. He doubted if a proper acetabulum could be formed in the absence of irritation or movement.

Mr. BOWLBY asked if it were considered that this operation was necessary in all cases, many of which differed so much from each other. In some, where the head of the bone was forward, the patients walked well, but where the bone was displaced backwards there was more limping and greater sliding of the bone on the dorsum ilii. At a time when a child began to walk it was necessarily unstable in its gait, but later it had educated its muscles, and these facts should be taken into consideration in judging of the results of treatment at this early age. In the two younger cases that Mr. Barwell had operated on the procedure had been carried out at such an early age that it was quite impossible to guess what would have happened if they had been left alone.

Mr. HOLMES remembered the case which Mr. Brodhurst had related. The division of muscles which had been recommended was put forward as accessory to other treatment, with a view to hasten it, and he supported the view that a judicious subcutaneous section of muscles brought about a more rapid result than could be obtained by rest alone. Mr. Barwell, in addition, attempted to produce something in the way of an acetabulum after the manner of König. In spite of Mr. Bowlby's criticism, he held that in the greater number of cases of congenital dislocation the deformity might go on increasing until the patient could scarcely walk at all, and for these operation was advantageous. He added that a valuable appendix to the paper would be drawings or photographs of the cases before operation was undertaken.

Mr. BARWELL, in reply, said that the only object of his method was to expedite treatment, which was often otherwise most irksome. He had endeavoured to make a lip of bone above the femur to form some sort of resistance to the upward gliding of that bone. Many of these cases were not so easily treated as some of his critics seemed to think. He had not practised König's operation, which he considered to be too severe a measure. His first case was eleven years and a half old when he operated. He was not convinced of the advantage of dividing the anterior fibres of the gluteus maximus and the obturators.

CLINICAL SOCIETY OF LONDON.

Nerve grafting.—Abdominal Section in cases of Ruptured Spleen and Liver.—Mediastinal and Pulmonary Carcinoma associated with Retraction of Chest Wall.—Modes in which a Strangulated Loop of Bowel reacts to the Constricting Medium.

AN ordinary meeting of this Society was held on March 11th, the President, Sir Dyce Duckworth, in the chair.

Mr. DAMER HARRISSON read a paper on a case of Nerve-grafting. After recalling the excellent results which followed close apposition of the ends of divided nerves the author observed that the only satisfactory method of dealing with nerves the ends of which were too far apart to admit of their being sutured was by nerve-grafting. He referred in detail to the history of eight cases in which this operation had been performed at home and abroad, and then proceeded to narrate the following case under his own observation. A lad, aged thirteen, was admitted into the Liverpool Northern Hospital on June 4th, 1891, with the following history:—Eleven weeks before a glass cut of the front of the right wrist divided *inter alia* the median nerve and all the flexor tendons except the flexor carpi ulnaris. On admission the fingers were found to be immovably fixed in the flexed position, paralysis of both motion and sensation being complete, corresponding to the median nerve. Trophic changes were also present, the hand being blue and cold, the skin glossy, and the short muscles of the thumb much atrophied. Mr. Harrisson explored the site of the original injury and found the flexor tendons matted together and nearly two inches of the nerve had been destroyed, leaving a gap between the ends. After dealing with the tendons the nerve ends were freshened, thus increasing the separation to two inches, and a graft two inches and a quarter in length, taken from the sciatic nerve of a recently killed kitten, was fixed in a position by one fine catgut suture, at each end passing through the substance of the nerve. The limb was then put in a splint, with the hand flexed and the fingers straight. The wound healed by first intention. Sensibility began to return in the palm of the hand and over the first phalanx of the thumb at the end of forty-eight hours, and by the third day had extended to the first phalanges of the index and middle fingers and the terminal phalanx of the thumb, and eventually over the middle phalanges of the index and middle fingers. Sensation had not returned in the tips of the fingers. There was also transference of sensation, impressions from the first phalanx of the index finger being referred to the corresponding area of the middle finger. At the end of three months the nutrition of the hand also showed great improvement. Motion showed no signs of returning until the end of five months, when slight voluntary movement was observed in the short muscles of the thumb. Though still feeble, these movements were improving, and within the last three months the patient had been enabled to oppose the thumb to the index finger. The flexion of the fingers upon the palm was not perfect, doubtless on account of the destruction of the tendon of the flexor sublimis digitorum. In another case of the same kind an operation had still more recently been performed by Mr. Mitchell Banks of Liverpool upon the ulnar nerve at the elbow after excision of a neuromatous tumour, four inches being grafted from the sciatic nerve of a dog. Sensation was stated by the patient to have returned within thirty-six hours. Of the ten cases quoted by him three had been perfectly successful, six partially successful, only one proving a failure. He attributed the difference in the success attending primary and secondary grafting to the trophic disturbances which were present when grafting was resorted to as a secondary operation. Restoration of function took place readily enough after long periods of time in respect of sensory nerves, but the degeneration which took place forthwith in the distal portion of motor nerves rendered repair slow and the return of function very gradual.—The PRESIDENT asked the author if he could state what kind of graft formed the best material for a conducting medium.—Dr. SAVILL inquired what limit could be left between the divided ends of a nerve so that it could undertake its own repair without recourse to the introduction of

extraneous material. He referred to a case in which he had excised half an inch of the right median nerve in a case of tetanus; afterwards neuromatous enlargements developed on the divided ends, necessitating further removal, so that a gap an inch and a half wide was left. He brought the ends together without the intervention of a graft, and, though recovery was much delayed, at the end of a year and a half or two years there was perfect restoration of all the functions of the limb.—Mr. HARRISSON, in reply, said that all the materials which had been hitherto employed seemed to be nearly equally successful. The earlier return of sensory functions was to be expected, because the sensory fibres in the distal portion did not degenerate. There was no evidence at present to show the rate at which the motor fibres grew downwards; in Dr. Savill's case it seemed to have taken at least eighteen months.

Mr. PAGE related three cases in which Abdominal Section had been performed for Ruptured Viscera, in one instance the spleen, and in two the liver, being the organs injured. These were cases of abdominal injury without external wound, in which general peritonitis began within a few hours of the accidents, and was due to the presence of large quantities of extravasated blood in the peritoneal cavity. The abdomen was opened in the case of ruptured spleen forty-six hours after the accident, and the complete washing out of blood from the peritoneum gave marked relief, lessened the evidences of peritonitis, and seemed to come very near indeed to saving the boy's life. The injury in the first case of ruptured liver was more severe, several ribs being broken, but here also the peritonitis was unquestionably reduced by peritoneal flushing twenty-seven hours after the accident. In the second case of ruptured liver the injury was complicated by slight laceration of one kidney, and the amount of hæmorrhage had been enormous. Operation gave no relief twenty-nine hours after the accident. Notwithstanding the results in these three cases the object of the writer in recording them was again to urge the advisability of early exploration, and especially whenever peritonitis followed an abdominal injury without external wound. The propriety of such a step had been well established in the case of ruptured intestine, but the surgeon might have to do with a lesion of one of the viscera, in itself of comparatively small moment. The real source of danger in such cases lay in the stagnant blood in the peritoneal cavity, and in abdominal exploration and peritoneal flushing there were the means of averting death from the general peritonitis which was almost certain to ensue.—Mr. LANE referred to some cases of uncomplicated rupture of the spleen which had come under his care. The first was a lad aged fifteen, who, when driving a doctor's brougham, fell off and was struck by the pole. Mr. Lane opened the abdomen at once, found the spleen pulpy, and removed it. A large quantity of blood was evacuated, and the boy lived for five hours after the operation. The second case was that of a child aged four, who had also received a blow over the abdomen from the pole of a carriage. The abdomen was opened as soon as possible, and the spleen, which was completely broken up, was removed. The patient survived for about five hours. In a third case in which the speaker had performed abdominal section he found a large rent in the liver. He could control the hæmorrhage from this by grasping the organ in his hand, but he found it impossible to suture the rent, as one side of it had been driven inwards by the traumatism. He therefore plugged the wound in the organ with several yards of iodoform gauze, and then, the patient having lost much blood, transfusion of saline fluid was resorted to, the basilic vein being selected as the site of introduction. But it was found that immediately the fluid was thrown into the vein the bleeding at the liver recommenced, so it had to be abandoned, and the patient died. He held that wherever there was evidence of damage to viscera the abdomen should be at once opened.—Dr. HANDFIELD JONES related the case of a girl who was suddenly seized with signs of peritoneal hæmorrhage. She died five days later, and at the necropsy forty-two ounces of blood-clot were found in the peritoneal cavity, yet there were no signs of peritonitis. In the right tube was a ruptured ectopic gestation of about six weeks' growth. Another similar case was recorded in the *Centralblat. f. Gynec.*, 1891, in which, on operation three days after the rupture, the peritoneum was found full of blood, and yet there was no trace of inflammation. In another case which had been under his care a tubal gestation of three months and a half ruptured first into the layers of the broad ligament, and afterwards into the general peritoneal cavity. Thirty hours afterwards acute peritonitis developed, but then liquor amnii as well as blood had been extravasated. He thought that it was the admixture of these impure products which excited the inflammation.—Dr. VOELCKER referred to the case of a child aged eight who was recently admitted into the Middlesex Hospital after having been run over by a cart. There was no external wound, but the symptoms were those of an intra-peritoneal extravasation of blood. The child lived for five days, and at the necropsy four ounces and a half of blood were found in the peritoneum. There was a laceration on the posterior border of the right hepatic lobe, which was partly sealed by blood-clot. The only evidence of peritonitis was an extremely small flake of lymph on the upper surface of the liver, the general peritoneal sac being unaffected.—Mr. BOWLBY had not observed peritonitis to arise in connexion with rupture of the spleen, but he had frequently seen it in association with rupture of the liver, and he attributed it then to the coincident extravasation of bile. It should be remembered that the injury which caused the rupture of the spleen might also so damage the peritoneum as to excite inflammation in that structure. He felt sure that the mere presence of blood in the peritoneal cavity did not inevitably or even usually set up peritonitis. If every case of suspected rupture of viscera were operated on, more patients would be killed than cured. He did not see what surgical measure could benefit in a case of rupture of the liver.—Mr. SILCOCK said that a child was brought into St. Mary's Hospital after a very violent injury to the abdomen. For some time all went well, and then marked peritonitis set in. He found, on examination, that the rectum was full, and so the bowel was emptied, and iodine rectal injections given. A few hours after the first injection a large quantity of fæces came away, and the temperature sank to normal, though abdominal distension and tenderness remained for some time. The severity of the injury was proved by the fact that a week after the accident the whole surface of the abdomen turned perfectly black from extravasated blood. In this case there was a large extravasation into the peritoneum, and the timely removal of the septic fæcal material in the bowel prevented the migration of microbes into the exuded material.—Mr. HERBERT ALLINGHAM said that he had been recently called to the Great Northern Hospital to see a child who had been run over by a heavy waggon. The symptoms induced him to open the abdomen, and he found the peritoneum full of blood. Having washed out the cavity he closed the wound and inserted a drainage-tube. The child died four days later of peritonitis; at the necropsy there was found a rupture of the posterior surface of the liver, and it was around this that the peritonitis had commenced.—Mr. PAGE, in reply, said that the weight of evidence seemed to be against the idea that the blood of itself could set up peritonitis. But it should be borne in mind that the condition usually present was that of a large collection of blood, which was only separated by the thinnest membrane from the septic intestinal canal; this of itself justified the washing out of the blood from the serous sac.

Dr. PERCY KIDD related a case of Mediastinal and Pulmonary Carcinoma, associated with Retraction of the Chest Wall. The patient, a butcher aged fifty-two, had suffered from cough, expectoration, dyspnœa, and wasting for three months. On admission there was retraction of the left side in front, with dulness over the whole lung, most marked at the upper lobe. The inspiratory murmur was very feeble throughout, expiration being faint and blowing at the apex. On the right side the physical signs were normal. The heart was not displaced. The temperature maintained a remittent character throughout, ranging from 101° at night to 99° in the morning. A troublesome cough with copious expectoration, which the patient voided with difficulty, and dyspnœa were the chief symptoms. The sputum was repeatedly examined for tubercle bacilli, with a negative result. Death occurred from exhaustion about eight weeks after admission. The case was regarded as one of chronic phthisis, with thickening and adhesions of the pleura. The necropsy disclosed a large carcinomatous growth in the fork of the trachea, extending into and infiltrating the upper lobe of the left lung, which was firmly adherent to the ribs, the lower lobe was partially collapsed, and the bronchi were dilated and filled out with pus. The whole was much reduced in size. There was no growth in the right lung, which was large, and contrasted strongly with the left. The left main bronchus was moderately narrowed from infiltration of its mucous lining. In conclusion, the exceptional occurrence of contraction and the diagnosis of such

cases were briefly considered.—The PRESIDENT asked if there was any œdema of the chest wall or of the upper extremity, conditions which were frequently associated with malignant disease of the lung.—Dr. KIDD, in reply, said that there was no œdema, nor were the veins distended. Though the bronchus was narrowed, yet it seemed that the growth was more a pulmonary than a mediastinal one, and the retraction was probably produced by the simultaneous obstruction of a great number of the smaller bronchi.

Mr. ARBUTHNOT LANE read notes of a series of cases illustrating the Modes in which a Strangulated Loop of Bowel reacted to the Constricting Medium, and he illustrated it by two cases of strangulated hernia, on which he had recently operated. Both these cases were remarkable for the extreme sharpness of the constricting edge. In one, a congenital hernia occurring in adult life, the loop of bowel had passed, along with a piece of omentum, through a small aperture in a diaphragm-like structure. The portion of bowel in the sac was not much congested, and appeared as if it would at once perform its functions satisfactorily on being returned into the abdominal cavity. The distal portion of the loop was shielded from the very sharp constricting margin by the omentum, but more than three-quarters of the circumference of the proximal portion of the gut had been subject to its pressure. This piece of the bowel had by a process of ulceration been deprived of all but its peritoneal coat for a breadth of nearly an eighth of an inch. This coat appeared very thin and fragile, but was not perforated. Mr. Lane invaginated the damaged portion of the circumference of the bowel into that beyond and retained it with sutures. The man recovered and leads an active life. The second case was one of reduction *en masse*, in which the contricting medium was precisely similar in character to that in the preceding case, but in it both proximal and distal ends of the loop were so deeply ulcerated as to leave only the peritoneal coat along the line of constriction, and though there was no obvious perforation, the fluid in the sac and that in the abdominal cavity in the vicinity of the hernia emitted a strong odour of fæces. The loop was excised, and the ends of the bowel approximated by Senn's method. Symptoms of peritonitis, which were only local before the operation, soon became general, and death ensued on the following day. In this, as in the first case, the loop of bowel showed no material change, except at the point of constriction. It would have been impossible to have performed the operation at all owing to the very enfeebled state of the patient, but for the free intravenous injection of saline solution. With these two cases he contrasted the condition of bowel seen in strangulated hernia, when the constricting medium is broad and produces no local distinctive change in the gut. In such, the condition of the strangulated loop stimulates that resulting from the experimental ligature of a loop of bowel by a piece of broad tape or gauze, the bowel becoming intensely congested, thick, leathery, inelastic, and, for a longer or shorter time after the constriction has been removed, functionless. If it be subjected to the influence of the constriction for a sufficiently long time, gangrene took place at the convexity of the loop, commencing at a point most distant from the constriction. He pointed out that between these two extremes any number of intermediate conditions and combinations occurred, and he indicated their importance surgically. The freedom of the bowel from congestion in the two cases described he explained in this manner: When the loop first became strangulated it probably soon became more or less congested, but the very sharp constricting margin produced rapid destruction of the soft mucous and muscular coats of the bowel by its pressure, and their consequent disappearance enabled the veins which were orginally constricted to dilate, and to occupy the space filled originally by these bulky coats, so the back flow of blood from the bowel was carried on sactisfactorily, the loop recovering its normal appearance more or less completely and rapidly.

MEDICAL SOCIETY OF LONDON.

Operation on Injured Median Nerve.—Acute Epiphysitis of Humerus.—Senile Cutaneous Tuberculosis.—Nephrectomy.—Compound Fracture of Skull treated by Trephining and Replacement of Bone.—Partial Removal of Clavicle for Necrosis.—Spina Bifida Occulta.

A CLINICAL MEETING took place on March 21st, Professor William Rose, Vice-President, in the chair.

Mr. PICKERING PICK showed a patient in whom there had been Accidental Division of the Median Nerve, and in whom operation resulted in restoration of function. In January, 1889, a girl, aged five, was running along the street when she fell, a bottle which she was carrying was broken, and one of the fragments cut her arm. The medical man who attended her sutured the tendons, but he failed to find the distal end of the median nerve; he therefore closed the wound without bringing the severed ends of that structure together. In April, 1891, the case came under Mr. Pick's care. He made an incision, easily found the upper bulbous end of the median nerve, but he had great difficulty in discovering the attenuated lower end. It was separated by so great a distance from the upper portion that even after stretching the latter he could not bring them within an inch of each other. But he found lying beside the upper cut end some organising inflammatory material, and he dissected this from the side of the nerve, leaving it still attached to the lower end of the upper fragment, and turned it down and sutured it to the lower end of the nerve. By the eleventh day the wound had healed. On her return in October last sensation was found fairly good in the digits supplied by the nerve, glossy condition of the skin had disappeared, and the muscles of the thenar eminence were recovering.—Professor ROSE said that he had had several of these cases during the last few years, and many of them had not done satisfactorily. There was often much pain because of the stretching of the nerve in order to bring the ends together, as he had taken much pains to secure end-to-end union.—Mr. RIVINGTON asked if it were certain that the tissue which was reflected down was really cicatricial tissue, and he suggested that it might have been the severed end of the nerve which had become doubled backwards. He asked if any experiments on animals had been performed which confirmed the view that restoration of function would take place if the connecting medium were merely connective tissue.—Mr. PICK, in reply, said that he felt certain that the mass contained cicatricial tissue only, without nerve filaments.

Mr. EDMUND OWEN showed a female infant of nine months, who last January was admitted to the Children's Hospital with Acute Sub-deltoid Abscess. The infant looked extremely ill; axillary temperature 101°; pulse rapid and feeble. Under chloroform, the movements of the shoulder-joint were free; the humerus was thickened just below the tuberosities. The diagnosis made was acute septic inflammation—probably with necrosis—at the diaphysial aspect of the junction cartilage. On an incision being made down to the bone an abscess was evacuated, and a small opening was found leading into the humerus at the surgical neck. This opening was enlarged, two small sequestra were extracted, and a good deal of granulation tissue was scraped out of the expanded shell of bone. During this operation the epiphysis became detached. The cavity was washed out with a chloride of zinc solution and temporarily drained, the upper part of the incision being closed with sutures. The hand was then fixed across the opposite side of the chest, and the arm was secured in dry dressings and a bandage as if for separation of the epiphysis. The infant's temperature quickly dropped; the wound closed; the epiphysis once more became attached to the shaft, and the child has recovered with movable joint and a sound limb. Mr. Owen was of opinion that this case had been on the verge of becoming one of those which were described as acute arthritis of infants, and though he could not adopt the term as a separate pathological entity, he was well aware that arthritis did often follow the epiphysitis. He was in favour of early exploration of the bone in these cases.—Professor ROSE congratulated the exhibitor on the result of the case. He had often thought that the epiphysial cartilage acted as a barrier, preventing the extension of mischief into the joint.—Mr. PICK took exception to the title "acute epiphysitis," which had been used to describe the case. It was not a disease of the epiphysis, but of the growing end of the diaphysis, and not beginning in the cartilage or the epiphysis at all. He did not take a gloomy view as to the ultimate length of the arm, for often in these cases the growth of the cartilage was not interfered with, and shortening did not happen. In one case under his observation, where there was a similar lesion at the upper end of the femur, no shortening could afterwards be detected.—Mr. BATTLE concurred in the view that the disease occurred in the growing end of the diaphysis, and it was fatal because of the tendency there was for the affection

to spread through the epiphysial cartilage into the joint rather than to point towards the surface. As for the after-result, they nearly all showed deformity about the joint, with shortening of the limb.—Mr. KEETLEY thought that this condition could rarely lead to shortening, because shortened limbs from this cause were so very rarely seen in after-life. Such an affection might, indeed, even lead to a lengthening of the bone, and he referred to an instance which illustrated this.—Mr. OWEN, in reply, accepted entirely the view that the disease began at the upper part of the diaphysis, near the cartilage; he did not like to call it a diaphysitis, however, as it did not involve the whole shaft. He thought that there were a good many of these shortened limbs about, and that many of them were put down to infantile paralysis. It was usually a chronic disease, and not an acute one, which produced lengthening of the bone.

Dr. COLCOTT FOX introduced a woman aged sixty-six who was the subject of Senile Tuberculosis of the Skin. For six or seven years she had had a lupous condition of the skin of the back of the hand, which had of late assumed a secondary papillomatous character. She had originally struck her hand and inflicted a wound at the time she was nursing her husband and daughter, both of whom died of phthisis. He referred to two other cases: one in a woman of seventy-two and the other in a man aged eighty-two, in both of whom the lesion was on the back of the hand. In two of the cases the parts examined microscopically presented all the characters of tuberculosis, except that bacilli were not found.—Mr. SHEILD said that he had twice seen a cutaneous tubercular lesion in an elderly woman associated with an encysted tubercular ascites. In an elderly man he had seen a localised cutaneous tubercular lesion followed by acute general tuberculosis.—Dr. PASTEUR asked if lupus in younger people could commonly be regarded as arising by inoculation.—Mr. OWEN referred to the case of a post-mortem room porter who had warts on the back of his hand of chronic character, and who eventually died of phthisis.—Dr. FOX, in reply, said that personally he held a strong belief that the large majority of cases of lupus were due to inoculation from an outside source. Laennec also suffered from post-mortem warts and died of phthisis.

Mr. LOCKWOOD showed a healthy-looking woman on whom he had performed Nephrectomy. She had suffered from renal symptoms for the last fifteen years, which had been bad for the last seven. She came under his care in November, 1891, with a loin tumour, pain on micturition, cystitis, and pain in the lumbar region. She was passing thirty to sixty ounces of urine per diem, which was acid and contained one-sixth pus. He cut down by a lumbar incision and found a pyo-nephritic kidney, which he removed. On opening it it was found to contain a large calculus, which could not be felt, and which was only discovered on making a section of the organ.—Professor ROSE agreed in the advisability of attacking these cases from the loin. The great quantity of urine passed was strongly in favour of the other kidney being healthy.

Mr. BATTLE exhibited a girl aged five who, on Feb. 6th, 1892, slipped off the pavement and became crushed between the wheel of a van and the kerb. On examination there was found an irregular fracture of the skull, with considerable depression of bone, the latter being comminuted and measuring 2 in. by 1 in. Trephining was performed, the depressed portions elevated, and the piece removed by the trephine replaced. The pericranium was united by silk sutures, and the wound completely closed, no drainage-tube being used. The patient made a good recovery, in spite of the fact that she also suffered from a green-stick fracture of the right clavicle, a compound comminuted fracture of the right tibia, a compound fracture of the right fibula, and an extravasation of blood into the right iliac fossa.—Professor ROSE had found replacing the disc of bone not to be altogether satisfactory, especially if the piece were large. In one instance he had to remove such a piece on account of the irritation it caused.—Mr. SHEILD thought that the result would be better in young growing children than in adults.—Mr. KEETLEY said that in cases of depressed fracture of the skull it was preferable to use the chisel and mallet rather than the trephine. The portion of bone which was depressed was usually engaged all round the edge of the fracture, and these edges, on being chiselled off, easily disengaged the bone. In a compound fracture where there was dirt in the fissure the chisel would readily clean the fissure as well as raise the fragment. The portion of bone he wished to replace he usually put in a pocket which he cut in the neighbouring skin, and it was kept warm and healthy there until he was ready to replace it.—Mr. WATSON CHEYNE said that he had three times put back crowns of trephine and all with a successful result; but they were all in children, where the bone was very thin and vascular. In two cases the discs were put back whole, and one he cut into small pieces; the latter proceeding he meant to adopt in a future case. He kept the discs of bone in warm boric acid solution until they were required.

Mr. BATTLE likewise showed a woman aged thirty-four who in 1888 underwent an operation for Necrosis of the Clavicle, and a great deal of the bone was removed. The disease was of syphilitic nature, and a large gummatous ulcer over the part healed under iodide of potassium. There was one-third of the clavicle wanting, and there was no attempt at new formation of bone, there being merely a strong fibrous union between the ends of the fragments. Notwithstanding this, it was surprising what good power over the upper extremity the patient possessed.

Mr. MARMADUKE SHEILD showed a case of Spina Bifida Occulta associated with Necrosis of the Foot and Talipes. The patient was a man aged twenty-three, who came under observation on Dec. 21st, 1891. He had lately been an inmate of the Orthopædic Hospital, under Mr. Fisher, and the latter gentleman had operated upon the "club-foot" (talipes equino-varus) with exceedingly good result. A photograph was shown of the feet before operation. When first seen by Mr. Sheild there was a typical perforating ulcer under the left fifth metatarso-phalangeal joint. The orifice was surrounded by thickened, callous corn-tissue, and the probe reached carious bone. A bad corn also existed in a similar position on the right foot. On examining the spine a depression could be seen and felt in the lower lumbar region, and here the arches of the vertebræ appeared to be absent, and there was a growth of dark hair upon the skin. The mother of the patient stated in a letter that the medical man noticed, and spoke of, this condition at birth. She also made the spontaneous statement that for many years the child had no control over the evacuations of the bowels, and it was an interesting point that even now the patient could not restrain his bowels when he had diarrhœa. The talipes was probably congenital, but had got rapidly worse in the last few years. In conclusion, Mr. Sheild referred to the cases of Virchow quoted by Sutton, and pointed out the similarity which existed between many of the cases quoted by Mr. Sutton and the present one. He had reason to believe that many of these cases were overlooked in practice.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Mr. S. F. MURPHY, President, in the chair.

MONDAY, FEB. 15TH.

AFTER the transaction of ordinary business the President, in the name of the Society, presented to S. R. Lovett, medical officer of health of St. George's and St. Giles's, a silver tea service in recognition of his long and valuable services as treasurer.

Boric Acid in Foods.

C. F. CASSAL, F.C.S., then read a paper on the above subject. He was, he believed, the first to demonstrate the presence of boric acid in butter and cream, but it was now a matter of notoriety that, either alone or combined with borax, it was extensively used as such, or in the form of proprietary nostrums for the preservation of milk, cream, butter, meat juices, peptones, and similar preparations, caviar, &c., and also of fish and butcher's meat. It was not in any sense a food, was foreign to the animal organism, and was not necessary for the preservation of any of these articles, which could be effected by other and unimpeachable means. Foods so treated might be "of the substance," but were certainly not "of the nature and quality" expected by the purchaser. There was unfortunately little evidence as to the action of boric acid and the borates on health. In 1887 Dr. Dudfield and he had, at the request of the Vestry of Kensington, made some inquiries and sought the opinion of Sir A. Clark, Sir H. Thompson, and Dr. Lauder Brunton. Dr. Brunton referred to the investigations of Förster, who, from his experiments on dogs, had come to the conclusion that daily doses even of four grains checked

digestion, and caused a considerable increase of the unassimilated albuminoids in the fæces, together with a tendency to diarrhœa; and Sir Henry Thompson considered that it could not but be injurious to infants, who would naturally consume the largest proportion of such milk. Förster found it to act injuriously on plant life, checking the formation of chlorophyll. The Local Government Board declined to express any opinion. Hehner did not find it to interfere with the peptonising of albumen conducted artificially, but the conditions of the alimentary canal and of glass vessels were not perfectly similar, and, so far as we knew, all antiseptics were more or less hurtful in normal states of the system. We must always bear in mind the different action of single large and of constantly repeated small doses. The proportions in which he had found it in foods were in butter, 0·5 to 1 per cent.; milk, 7 gr. to the pint; cream about double this; while meat and fish were packed in it or "pickled" in a solution.—Dr. OGILVIE said that last summer he and three friends out yachting had used boric acid for preserving their meat, which they took on board once or twice a week. They never boiled it, and must therefore have ingested about a quarter of a pound each of boric acid in the course of the month. They certainly felt no ill effects.—Mr. WYNTER BLYTH referred to its use in medicine, especially for thursh in infants, and was very doubtful as to any possible harm from it in moderation.—Dr. SYKES said that he had seen large consignments of rabbits imported from New Zealand in ice and boric acid. They were pressed flat, had a most uninviting aspect, and a peculiar "alkaline" odour quite unlike that of ordinary putrefaction. The flesh, he had observed, was remarkably friable. He demurred to Mr. Cassal's statements that germicides must necessarily be poisonous to man and other higher animals—a position formerly held, but now no longer tenable.—Dr. WILLOUGHBY referred to some recent experiments on the sterilisation of milk, an abstract of which he had published in the *International Journal of Medical Sciences*, from which it appeared that boric acid was but a feeble germicide, that borax, like carbonate of soda, neutralised the lactic acid, and that the general result was rather to conceal the changes that did take place than to prevent or even greatly retard them The friability of the New Zealand rabbits seemed to indicate analogous conditions, and he maintained that the use of boric acid and the borates was to be deprecated, not so much on account of any assumed toxic action of the reagent as from the fact that it concealed incipient decomposition and rendered saleable food that would not be so otherwise, and could not be deemed wholesome. It was thus that the petty dealers carried over to the next day their surplus and stale milk, which they could not, like the larger houses, turn into butter. But in the case of fresh butter and cream it might, perhaps, be looked on as a *bonâ-fide* preservative.—A MEMBER mentioned that a fishmonger he knew had kept his shop perfectly free from flies all last summer by frequent waterings with a boric solution.—Professor CORFIELD deprecated departing from first principles and discussing probabilities or degrees of ill effects. Boric acid and borax were drugs, perhaps valuable as therapeutic agents, but they were not foods, nor constituents of the body, as salt, or even as the nitrates, phosphates, &c., of the alkalies; and while any doubt existed as to its innocence, boric acid should be prohibited in food.

ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

Brain of Ornithorhynchus Paradoxus.—Abnormal Condition of Shoulder-joint.—Myology of Rodents.—Abnormal Aorta.

A MEETING of the Society was held on Monday, Feb. 22nd, Sir William Turner, F.R.S., in the chair.

Sir W. TURNER communicated a paper on the Brain of Ornithorhynchus Paradoxus, comparing it with that of echidna, remarking on its lower grade of development and pointing out the great size of the olfactory bulb. Sir William described the brain as having an absolutely unconvoluted external surface, referring certain shallow sulci mainly to the presence of bloodvessels. He referred to certain points on the inner aspect, especially to the posterior connexions of the olfactory bulb and a possible spherical fissure.—Dr. ALEXANDER HILL had also studied the brain of ornithorhynchus, probably from an older subject. He found a well-marked division of frontal, temporo sphenoidal, and occipital lobes, but no convolutions or fissures, with the exception of the rhinal and hippocampal fissures. He remarked also the great size of the olfactory bulb, and described its connexions. The fissure on the inner aspect described by Sir William Turner was probably the homologue of the hippocampal.

Sir W. TURNER communicated for Mr. Hepburn a note on an Abnormal Condition of the Shoulder-joint. The joint was removed from a dissecting-room subject, the main peculiarities being an almost complete absence of the upper part of the capsular ligament, the remains attached to the glenoid cavity exhibiting a smooth rounded margin and atrophic changes in the humerus. The condition was symmetrical, and in addition there was an arthrodial connexion of the acromion process on the right side. A short discussion took place, in which Messrs. Thane, Anderson, Howes, and Curnow took part, the general opinion being expressed that the condition was pathological.

Mr. F. G. PARSONS read a note on Some Points in the Myology of Rodents. Mr. Parsons referred to the bilaminar arrangement of the panniculus carnosus in rodents, and to its supply by a large nerve corresponding to the internal anterior thoracic of man. The mingling of the fibres of the deep layers of the panniculus with the pectoralis major, a bundle actually passing between the abdominal and sternal portions of the latter muscle, suggests the possible origin of the pectorals as a specialisation of the deep layer of the panniculus. This would explain also the relation of the occasional sternalis and axillary arches to the pectoral muscles, all being developed from the same layer of the panniculus. The arrangement of the adductor magnus and semi-membranosus in the agouti suggests that the adductor magnus in man represents both the great adductor and a slip of the semi-membranosus, the latter segment being that internal to the adductor arterial canal and supplied by the sciatic nerve. The rectus capitis posticus major in the guinea-pig was found to consist of two distinct slips on three occasions; this arrangement had not been found in any other rodent.

Mr. F. C. ABBOTT showed two specimens of Abnormal Aorta, one a right arch, the branches arising in the following order: Left carotid, right carotid, right vertebra, right subclavian, left subclavian; the second, a left arch with the carotids arising by a common trunk, the right vertebral arising from the right carotid beyond the carotid trunk, the left vertebral, then the left subclavian, and lastly the right subclavian. Mr. Abbott also showed a Pulmonary Valve, with four cusps.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

A MEETING of the Section of State Medicine was held on Feb. 19th, Dr. Cosgrave, President, in the chair.

The Control of Inebriates.—Dr. COSGRAVE, having dealt with the varieties of inebriety and described the working of the Inebriates Act, suggested that certain improvements were required. Voluntary entrance into an inebriates' home should be made much easier. The necessity of appearing before two justices was especially odious. Delays and disappointments arising from this requirement kept many cases from treatment. It would, indeed, make the Act much more workable if entrance was still more simplified and no appearance before a magistrate was required. With all the safeguards for inspection and appeal that are in the present Acts, no harm could arise from entrance into a retreat being made comparatively easy. There should be power to send people to inebriate asylums, this power to be invoked by the person's family or friends or by the public authorities. Provision for poor cases is urgently needed. This would of course cost money, but if it led to the cure of inebriates it would lessen police court, workhouse, prison, and lunatic asylum charges. The cost need not fall on the general body of the ratepayers. The inmates should be required to work to help to meet the cost of their support. The Inebriates' Home of King's County, New York, gets 12 per cent. of the licence moneys, an example which might well be followed in this country. There are defects in the present Acts which unnecessarily added to the difficulties of the licensee. Thus a patient could

easily escape if he chose, and the licensee had no right to use force to prevent him. The part of the liquor traffic which consists in encouragement of drunkenness should be suppressed. In Prince Edward's Island when proper notice in writing is given to any dealer in intoxicating liquor that a person is addicted to drink, he is not allowed to sell him any intoxicant. The penalty for the first offence is a fine of not less than £5; for subsequent offences a fine of between £5 and £10, and imprisonment for a period not exceeding thirty days. The author had brought the subject again before the Section, as he believed that in many cases inebriety was a disease closely allied to insanity and susceptible of successful treatment, if power was given to keep the patient from drink for a sufficiently long period, and that therefore the sooner the case was taken in hand the greater was the probability of cure.—Dr. DAVYS was of opinion that the only successful treatment or cure of the intermittent drinker was that the family physician should, with the approval of the family of the patient, employ a strong male attendant for the inebriate, and by physical force prevent him taking any alcohol, the patient to be kept in his house. Much greater privacy was thus observed than by sending him to a retreat, and having to bring him before a magistrate. The inebriate, when returning to his sober state, usually fully approved of the course adopted by his physician.—Dr. EDGAR FLINN quite agreed that the difficulties in getting dipsomaniacs into retreats under the Habitual Drunkards Act were made too stringent. It was a pity that the Habitual Drunkards Act was not applied to Ireland, for it certainly was required, and would act most beneficially. Persons addicted to drink were a class very difficult to treat by drugs; the radical cure, no doubt, was to remove them to some place where they would be prevented from obtaining drink; in fact, in some instances, they might with propriety be placed in asylums.—Dr. J. W. MOORE instanced three cases of intermittent inebriety which had come under his observation, and expressed the opinion that physical restraint was a much more reliable means of treatment than any medicinal remedies. The whole question of the control of inebriates was well worthy of the Legislature of the country.—Dr. J. DONNELLY agreed with the previous speakers as to the value of physical restraint in the treatment of inebriates and the necessity which existed for greater power in using it.—Dr. COSGRAVE, in reply, said that intermittent inebriety was undoubtedly the most interesting form from a scientific point of view. Dr. Davys' treatment of restraint by a stalwart attendant was good, if the patient would submit to it; but there was no power to compel him to do so. Easy admittance into an asylum for inebriates for a short period exactly met the requirements of such cases, and afforded a chance of tiding over attacks. Inebriety often caused neuroses in the descendants, sometimes whole families being affected with hysteria, epilepsy, inebriety, &c. In one case he (Dr. Cosgrave) had seen inebriety once in three generations. A lady, aged nearly seventy, suffered from intermittent attacks, her daughter died of delirium tremens at about thirty, and the granddaughter was seen under the influence of drink when only fifteen years old.

Pollution of the South-eastern Foreshore of Dublin.—Dr. EDGAR FLINN read a paper on the pollution of the south-eastern foreshore of Dublin. He pointed out that the pollution at Dublin, extending from Merrion to Kingstown and Sandycove, not only existed but was increasing, and that, although several partial attempts had been made to remedy the state of affairs, nothing radical had been effected. Eight main sewers and thirty minor ones at present discharged into the sea at this locality. He advocated a deep-sea outlet. In addition, he recommended an intercepting sewer, in which the sewage was to be collected and then discharged at about 600 feet from the shore, at a depth of 30 feet below the level of sea water. He concluded his paper by a criticism of the present methods of disinfecting sewage, and referred to that of Messrs. Adeney and Parry, known as the oxygen process, which had the advantage of precipitating the solid matter of sewage without the addition of precipitative chemicals.—Dr. DONNELLY remarked that, as precipitation has been so successful in many places, it could be adopted at the Salthill outfall, and avoid polluting the sea so close to the best bathing-place near Dublin.—Dr. COSGRAVE strongly urged the importance of not carrying out new drainage into the sea, but of substituting precipitation as used so successful at Drumcondra, and as about to be introduced in Dublin.

BRADFORD MEDICO-CHIRURGICAL SOCIETY

TUESDAY, MARCH 1ST.

ROBT. MERCER, M.R.C.S., President, in the chair.

Aortic Aneurysm.—Dr. MAJOR showed a mechanic, aged thirty-six, the subject of Aneurysm of the first part of the Aorta. Trouble began with sudden paroxysmal pains in the right side and arm about nine months previously; untreated syphilis eighteen years before. A large pulsatile tumour presented between the second and fourth ribs on the right sternal margin; there was systolic and loud diastolic bruit, heard loudest over the tumour, also down the sternum and at the back; heart hypertrophied. Pupils unequal, but no other pressure symptoms. Treatment consisted of rest, morphia, large doses of iodides, little fluid, but otherwise unrestricted diet. The patient was very much improved.

Peripheral Neuritis.—Mr. PETTITT showed a clerk, aged thirty-three, who had resided some time at Lagos, West Africa. Illness began acutely with vomiting after dining with a friend, who suffered similarly, but quickly recovered. Patient next day found he could not stand, and nine months after the onset was brought to England and carried to the infirmary. He supposed himself suffering from sasswood poisoning, which is said to produce a rapid paraplegia, loss of use of arms, and death. He had suffered from ague, rheumatic fever, gleet, and alcoholic excess; was profoundly anæmic; could hardly stand; little power in limbs; double wrist- and foot-drop; no knee-jerks; atrophy of interossei and muscles of the thumb; tenderness on squeezing calf muscles; reaction of degeneration in muscles of thumb and extensors of legs; no lead line; no mental peculiarities; urine contained a trace of albumen, and lead was detected in it.—Dr. MAJOR said that whatever the cause, the case was undoubtedly one of peripheral neuritis, and iodides were given and massage regularly applied, and this last had probably done most to get him well again.—Mr. OFFORD said poisoning by sasswood or sassywood was usually fatal on the second or third day, and resembled tetanus somewhat in symptoms.

Melanotic Sarcoma of Brain.—Mr. PETTITT read notes of a case in which a man aged forty-three had his eye removed some months after a severe blow. On admission to hospital seven months later he was totally deaf and blind, knee-jerks gone, and face paralysed. He had a tetanic spasm about ten days before death. Post mortem numerous inky black growths were found over the brain.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.

FRIDAY, MARCH 4TH.

Mr. ROBERTS, President, in the chair.

Radical Cure of Prostatic Enlargement by the Galvano-cautery.—Mr. BRUCE CLARKE read a paper on the above subject. After alluding in general terms to prostatic enlargement, he pointed out that, though obvious enough when the prostate was of considerable size, the disease was not easy to diagnose in its slighter varieties, which, as the result of post-mortem examinations showed, formed a large proportion of the cases as a whole. He had seen a good number of cases in which the patient had died from the results of cystitis, set up by prostatic enlargement, in which the actual obstructing piece of prostate was but small and seemed to come down like a little valve and block the urethra during the act of micturition. Of late years the prostate had been removed by the supra-pubic method when enormously increased in size. In such cases the galvano-cautery was absolutely useless, but in the slighter degrees of enlargement he had found it most useful. He described the method of using the instrument, and also of illuminating the interior of the bladder.—Dr. LEWIS JONES described the accumulators for heating the galvano-cautery and their construction at some length.

Dr. FULLERTON, for Mr. Poland, showed a young woman with a small tumour on the outer side of the right leg, three inches below the knee. It had been noticed for three months, and was as large as a small walnut. It disappeared under chloroform anæsthesia, but returned, and was evidently a localised spasm of the muscles.

Dr. ERNEST CLARKE showed the brain of a man admitted

into the Miller Hospital in a comatose condition, the result of a fall downstairs. He had incised a large swelling over the occiput with the intention of trephining in case depressed fracture was found. No fracture was discovered, and the man died three hours later. Post-mortem examination revealed extensive fracture of the base with laceration of the brain and hæmorrhage.

Reviews and Notices of Books.

The Comparative Anatomy of the Domesticated Animals. By A. CHAUVEAU, M.D., LL.D. Translated and Edited by GEORGE FLEMING, C.B., LL.D., F.R.C.V.S. Second Edition. London: J. and A. Churchill. 1891.

THE second edition of this standard text-book of veterinary anatomy will be welcomed not only by veterinary students but by all who have occasion to require a thorough and accurate description of the following animals: dog, cat, rabbit, pig, horse, ass, mule, ox, sheep, goat, common fowl, guinea fowl, turkey, pigeon, goose, and duck. The work contains 1084 pages, which are divided into nine sections or books, each treating a special system. The plan adopted is to take a type, which is most commonly the horse, and to describe each part accurately and thoroughly. This description is then compared at some length with the corresponding region in man, and then more briefly with the other animals on the list. The first book is devoted to the Locomotory Apparatus, and altogether gives the reader an accurate and clear idea of the osteology and myology of the animals treated. But here our attention is drawn to a defect that runs all through the book: the writer, in deciding on what names he shall give the various parts, does not always consider whether these names are used for the same parts in modern human and comparative anatomy. As an example of what we mean we will quote the description of the horse's skull. Here the foramen lacerum basis cranii is said to be divided by a ligament into an anterior and posterior foramen lacerum; but human and comparative anatomists generally recognise three lacerated foramina in the skull—anterior, middle, and posterior,—the anterior being also called the sphenoidal fissure and the posterior the jugular foramen. A student, therefore, accustomed to the use of modern anatomical nomenclature would run the risk of understanding that in the horse the sphenoidal fissure and jugular foramen were confluent.

The second book treats of the digestive apparatus, the third of the respiratory, the fourth of the urinary, the fifth of the circulatory, the sixth of the nervous, the seventh of the skin and sensory organs, and the eighth of the organs of generation. The ninth book is devoted to embryology, and gives a very complete and lucid statement of the changes that occur in the development of the fœtus. The work contains 585 illustrations, which are gathered from a great variety of sources, and of course are not all of equal value; 270 are Dr. Chauveau's, and these strike us as being the most valuable, and as showing the main features of the parts pictured most clearly. Most of the human osteological figures are borrowed from Wilson, while the descriptions of human neurology are accompanied by Hirschfeld's and Léveillé's illustrations; in addition to these Heath, Quain, Gray, and Holden have been borrowed from for the human anatomy, and Carpenter, Krause, Kölliker, Bowman, and Ecker for general histology. About sixty of the illustrations are original, and among them are some valuable sections showing that the modern tendency towards topographical teaching in anatomy is duly appreciated. The only drawback to these last named is the fact that the parts are numbered with almost microscopic figures, which are often placed upon the drawing and among the shading in such a manner as to make them very difficult to trace without the best possible light and eyesight. The embryological portion of the work is illustrated in a very copious and judicious manner, so as to materially assist the student who is trying to grapple with this most difficult portion of anatomy. The pictures are largely borrowed from Balfour and Kölliker. At the end of the work is a very comprehensive index, which greatly adds to its value. We heartily welcome the translation, not only as a standard work for English veterinary surgeons, but as a valuable book of reference for comparative anatomists.

Differences in the Nervous Organisation of Man and Woman. By HARRY CAMPBELL, M.D. London: H. K. Lewis.

IN the preface to this work it is stated that it was intended to discuss the subject with particular reference to the pathological aspects of the question, but the necessity, in order to make the work in any way satisfactory, of tracing the origin of physiological differences, and of discussing their bearings upon pathological problems, has resulted in a larger work than was intended. The book is one of nearly 400 pp., and it is divided into three main parts. The first deals with the evolution of sex, and the most important pages are those in which the views of Geddes and Thomson, with reference to the morphological differences between the sexes, and their explanation, are subjected to a searching criticism. While not denying that most people will probably grant that anabolism and katabolism are the characteristics of the female and male sexes respectively, Dr. Campbell, in a few pages of closely reasoned and logical writing, clearly shows that this characteristic of the sexes and of the sexual elements is not adequate to explain sexual variations. The second part of the book is devoted to explaining the variable incidence of different forms of nervous disease on the assumption that anabolism and katabolism are characteristic of the sexes, but there is a tendency to make too free a use of those qualities and to minimise the effects which the differences in the modes of life of the two sexes and the greater incidence of syphilis upon males are likely to produce. An interesting and suggestive chapter is that in which the sexual instinct in man is compared with that in woman, and the definite conclusion is reached that this instinct is much less strong in the woman than in the man. The chapter discussing a menstrual rhythm in the male is crude and unsatisfactory. The third and last part of the book is almost purely psychological, and deals with various problems ranging from the origin of sensations to freedom of will. Here the individuality of the author is more evident than anywhere else in the book, and the manner in which the different questions are discussed shows his intimate acquaintance with the various views which have been held on the subject. In the fascination of the subject itself, the psychological differences as manifested in the sexes have not been so prominently kept in view as we should have anticipated.

The book as a whole is to be regarded more as a series of papers, highly interesting and suggestive undoubtedly, rather than as a work with any very definite result; and from the nature of the questions discussed, this was to be expected. But this character causes the work to lack cohesion, which is to be regretted, and which will make its influence less than if it had been more condensed.

Transactions of the Seventh International Congress of Hygiene and Demography. Edited by C. E. SHELLY, M.D., Vol. XII.: Municipal Hygiene. Royal octavo, pp. 183. London: Eyre and Spottiswoode.

THE Transactions, of which this is the first volume to appear, are being published in thirteen volumes, the number of each volume being the same as the number of the Section

to which it is devoted. Hence it follows that vol. xii., in which there are no discussions to be reported, is the first to be issued. The origin and objects of the present volume are tersely given in a short introductory note which bears the signature of Dr. Poore, the secretary-general, and is to the following effect:—"To the Corporation of Dundee is due the credit of originating a suggestion made during the earlier part of the year, in response to which a number of municipal bodies supplied the honorary secretary-general of the Congress with brief reports relating to their vital statistics and corporate history, and embodying the results of local sanitation. These communications—which were obviously unsuited, and were not intended, to form a subject of discussion by the Congress—are collected in the present volume, and, in order to facilitate reference, have been arranged in alphabetical order under the names of the cities and towns to which they severally refer. They thus present, in a compact and accessible form, a considerable mass of information, which can scarcely fail to prove valuable as well as interesting. For, dealing as they do more or less fully with all the great questions of modern sanitation, they indicate some of the many ways in which these problems have arisen, the causes which have operated to make them urgent, and the methods by which they are being successfully solved by communities varying within wide limits of population and of very different rates of growth, existing under a diversity of social conditions, and occupying areas that differ greatly in extent, in configuration, and in climate." The volume contains reports from thirty-five municipalities and sanitary authorities—viz., Aberdeen, Andover, Belfast, Birmingham, Blackpool, Bournemouth, Brighton, Cardiff, Croydon, Dundee, Ealing, Edinburgh, Glasgow, Gloucester, Hanley, Huddersfield, Lancaster, Leeds, Liverpool, Morecambe, Newcastle-upon-Tyne, Paignton, Preston, Richmond, Ryde, St. Helens, Salford, Wallingford, Wolverhampton, Ahmedabad, Bombay, Calcutta, Rangoon, Auckland, N.Z., and the colony of South Australia. Each body was left free to choose its facts and to arrange them as seemed best, and the result is that the reader has the advantage of studying a great variety of practical sanitary measures, which should have considerable interest for all those who are engaged in official sanitary work. Many of the papers are illustrated by maps and plans, which, although not showing much detail, are sufficient to give an idea of the situation and lay of the locality dealt with. All who are interested in municipal hygiene may obtain the volume by sending the price (2*s.* 10*d.* post free) to the publishers, the Committee of the Congress having wisely determined to sell each volume separately, and for a uniform price. To members of the Congress this, as well as the other volumes, will be supplied gratuitously when all are completed.

OUR LIBRARY TABLE.

The Simulation of Hysteria by Organic Disease of the Nervous System. By THOMAS BUZZARD, M.D. Lond. London: J. & A. Churchill.—We referred some time ago to Dr. Buzzard's interesting presidential address to the Neurological Society. This work has that address as a backbone, but a considerable amount of fresh material has been added, rendering the little book as complete and concise as is to be expected under the circumstances. Dr. Buzzard has undoubtedly done a great service to practical men by bringing so forcibly under their notice the characteristics of a large and important class of cases in which the diagnosis offers much difficulty, and in which mistakes are productive not only of disappointment and chagrin to the practitioner, but also of grave injustice to the patient. The work, as we have said, is as complete as its nature requires, and is well worthy of careful study.

Manipulation of the Microscope. By EDWARD BAUSCH. Illustrated. Bausch and Lomb Optical Company, Rochester, New York, and W. P. Collins, London. 1891.—We have before us a copy of the tenth thousand of Edward Bausch's little book on the microscope. As one would expect from the accuracy of his formulæ, the results of which are seen in his objectives, the work is thoroughly practical, and anyone who carefully reads through this book will have an amount of knowledge of technical detail and of the method of working with the microscope that can be obtained from no other book of the same size. The hints on "How to select a Microscope" are very valuable, though they refer, of course, to Bausch and Lomb's special catalogue and to high-class microscopes, rather than to those within the reach of the student. We can recommend this little work both to those who wish to obtain information about the microscope and to those who wish to have, in handy form, the more important data useful to the microscopist.

"Hors de Combat"; or, Three Weeks in a Hospital. By GERTRUDE and ETHEL ARMITAGE SOUTHAM. Illustrated. London, Paris, and Melbourne: Cassell and Co.—This handsome quarto is probably intended to give an idea of the way in which hospital routine strikes a casual patient, who, by the way, is in this instance a baronet. It sets forth in enthusiastic terms the qualities of Sister Agnes and Nurse Graham during the three weeks of the baronet's stay in the institution. The accident, a broken arm and a scalp wound, has rendered the patient unable to shoot grouse on the Scottish moors—placed him, so to speak, "hors de combat." The literary style abounds with tropes and figures, some of them correct and others fantastical. Gruesome cases of double amputation, of delirium tremens, and suicide are detailed in as racy and circumstantial a manner as the subjects will permit of. Regarding the nurse, due prominence is given to the "picturesque white cap tied becomingly under the chin," to her ingenuity, and her unfailing good temper. The book is handsomely got up by the printer, and is embellished with excellent illustrations, which are a credit to the various artists who photographed them and prepared them for the press. In these respects we have nothing but praise for it. Our difficulty has been in discovering any good reason why a baronet with a broken arm, having been taken to an institution of this kind, should have been kept there for twenty-one days at the rate of three guineas a week, when he might have been sent home and the bed occupied by a necessitous patient. It appears that he was made so comfortable in his hospital quarters that on getting home again he "wished to goodness he was back at the hospital." As a matter of fact, he did return on the first opportunity, and was conducted through the whole institution. The tale finishes somewhat abruptly by the secretary receiving from the grateful baronet a cheque for £1000, as a kind of conscience money.

Higiene de la Vista y Causas de la Ceguera. Por el Dr. JUAN GELPI Y JOFRE, Profesor Libre de Oftalmología. Barcelona: Tipografia, *La Academia.*—This work on the Hygiene of the Sight and the Causes of Blindness is not intended to teach medical students ophthalmology, but to give the public, and perhaps especially persons in authority and those having charge of children, some idea of the most common forms of eye diseases and to show them how they may be guarded against. A number of statistics—somewhat out of date, it is true—and a map are given showing the proportion of blind to the general population in the different provinces of Spain. From these we see that the worst province is Almeria, where the percentage of blind is 0·379; in Madrid it is 0·2294. The province where there are fewest blind is Tarragona, where the percentage is only 0·0524.

The Journal of Anatomy and Physiology. Conducted by Sir GEORGE HUMPHRY, Sir WM. TURNER, and J. G. MCKENDRICK. Vol. XXVI., Part II. January, 1892. Williams and Norgate.—The following are the more important papers contained in this number:—1. David Hepburn: The Comparative Anatomy of the Muscles and Nerves of the Superior and Inferior Extremities of the Anthropoid Apes, with a plate. 2. D. M. Greig: Congenital and Symmetrical Perforation of both Parietal Bones. 3. A. E. Wright: A Suggestion as to the Possible Cause of the Corona observed in certain After-images. He attributes it very sensibly to changes in the accommodation during fixation. 4. A. A. Kanthack: Complete Cervical Fistulæ. 5. R. Shufeldt: Concerning the Taxonomy of the North American Pygopodes, based upon their Osteology. The pygopodes, he thinks, are restricted to the Loons and Grebers. 6. Vaughan Harley: Experimental Pathological Evidence, proving the existence of Pancreatic Diabetes. 7. A. N. McGregor: The Repair of Bone, with special reference to Transplantation, with a plate. 8. T. P. Anderson Stuart and Alexander McCormic: The Position of the Epiglottis in Swallowing. 9. James Musgrove: Bifurcation of the Femoral Artery, with subsequent reunion, with a plate. 10. James Musgrove: The Bloodvessels of the Retina, with a Method of Preparation for Lanthorn Demonstration, with a plate. 11. Louis Robinson: On a Possible Obsolete Function of the Axillary and Pubic Hair-tufts in Man. He thinks these tufts may be the traces of the tufts by which young apes hang beneath the body of the mother. 12. Sir William Turner: Notes on some of the Viscera of Risso's Dolphin. 13. The Minute Anatomy of the Central Nervous System according to Golgi's method, translated from several foreign journals by William Aldren Turner.

A Winter Cruise in Summer Seas: "How I Found Health." By CHARLES C. ATCHISON. London: Sampson Low, Marston, & Co.—This book consists of a diary of two months' voyage in the R.M.S.P. Co.'s ss. *Clyde*, from Southampton, through the Brazils, to Buenos Ayres and back, at a cost of £100. The volume has at least three merits—the superiority of its typography; the excellence and abundance of its illustrations, some of which are not without a considerable spice of humour; and the gossipy and entertaining style of the narrative. It is a book eminently calculated to help to while away an idle hour. It will also be useful to any who may need guidance in the selection of a desirable method of avoiding part at least of the trying winter climate of the British Isles.

Analytical Records.

MALTED GERM BREAD.

(JOHN BATES, SOUTH NORWOOD.

"MADE from the entire grain, free from bran, and containing a small quantity of malt flour" are the statements made, and to which, according to our examination, we can take no exception in regard to this excellent specimen of bread. Analysis showed unusual richness in nitrogenous constituents, as well as in valuable soluble phosphate, the gluten calculated on the nitrogen found amounting to 6·96 per cent., and the ash to 0·94 per cent. Moisture amounted to 43·35 per cent. Barley starch was recognised under the microscope. The bread was characterised by a marked nutty and agreeable flavour, and its value as a food is doubtless enhanced by the commendable plan of selecting only the choicest materials for its preparation.

AMPLOSIA—PURE UNFERMENTED JUICE OF THE GRAPE.

(AMPLOSIA KELLEREI, H. KAUL, LANDAU, RHENISH PRUSSIA.)

There is not a particle of evidence, judging from taste and chemical analysis, that this is not, as stated, the pure unfermented juice of the grape. It is perfectly free from alcohol, and yields on analysis 21·11 per cent. extract and 0·28 per cent. mineral matter. Unfortunately the presence of some antiseptic is absolutely necessary to preserve the liquid from fermentation or decomposition. We had no difficulty in extracting a crystalline substance, which readily sublimed on heating, and yielded when neutralised a buff-coloured precipitate with perchloride of iron. Amplosia forms a very palatable drink, especially when mixed with soda water; but the presence of an antiseptic may afford ground in the opinion of many for objection to its constant use.

THE PURE BEEF COMPANY'S PREPARATIONS.

(OLD TRINITY HOUSE, 5, WATER-LANE, GREAT TOWER-STREET, E.C.)

The varieties of food stuffs prepared by this company are not few, as, in addition to ordinary concentrated beef extract, essence, and tea, certain other useful meat preparations have been submitted to us. Clear and thick household stocks for thickening soups, concentrated beef *à la mode* for the quick preparation of a hot tasty dish, and meat lozenges as a portable form of nourishment, may be selected as examples. The essence of beef is a clear, thin, amber-coloured jelly, which on analysis gave the following results: Moisture, 88·43 per cent.; mineral matter (chiefly phosphate), 1·15 per cent.; organic matter rich in nitrogen, 10·42 per cent. Extractum carnis is a solid extract intended to increase the nourishing and stimulating qualities of soups or gravies, and to lend them a rich meaty flavour. It is soluble to a nearly clear solution, and an analysis gives the following results: Moisture, 29·08 per cent.; mineral matter (8·56 per cent. (consisting chiefly of phosphate); organic matter (containing nine parts of nitrogen), 62·36 per cent. The composition of the concentrated beef-tea is excellent. Both microscopical and chemical examination showed it to contain all the valuable principles of good beef-tea—that is, stimulating extractives as well as nutritive fibrine and albumen. Submitted to quantitative analysis the concentrated beef-tea gave the following factors: Moisture, 22·80 per cent.; mineral matter, 9·02 per cent.; organic matter (containing nearly ten parts nitrogen), 67·18 per cent. It is needless to point out that preparations of this character will serve many useful purposes.

REED & CARNRICK'S PREPARATIONS.

(REED & CARNRICK, NEW YORK; AND J. M. RICHARDS, 46, HOLBORN-VIADUCT.

SOME years ago we had occasion to report favourably upon certain admirable products of this firm, and recently we have had submitted to us further interesting and new preparations, the results of the examination of which are well worthy of record. Liquid pancrobilin, as its name indicates, contains the agents which prepare food for assimilation in the duodenum. It is a clear, syrupy, brown fluid, slightly alkaline to test-paper, and sweet at first to the taste and then persistently bitter. After acidulation with sulphuric acid, ether extracted a body which gave the well-known bile reaction with strong sulphuric acid and syrup (Petenkofer's test). Emulsion of starch was readily liquefied, and slowly though distinctly converted. According to other reactions the preparation contains glycerine and spirit. On suitable treatment the pancrobilin pills gave reactions confirmatory of the presence of both constituents—ox bile and pancreatin; while from the compound pancrobilin pills—into the composition of which nux vomica, damiana, extract of colocynth and quinine enter—the alkaloids of nux vomica and quinine were successfully extracted and identified. Lacto-preparata is described as artificially prepared human milk and sterilised, in which the tough character of the caseine is so modified that it will no longer coagulate into hard curds. It has probably therefore been malted or partly digested with diastase, for under the microscope a few cells of barley starch were

recognised. On analysis lacto-preparata gave the following results:—Moisture, 1·7 per cent.; fat, 0·6 per cent.; mineral matter, 5·2 per cent. (mainly phosphate of potassium); sugars and albuminoids, 92·5 per cent. Lacto-cereal food is a somewhat complex mixture, and consists of partly digested milk powder, starch, dextrin, malted barley, desiccated bananas, cacao butter, and manna. It is characterised by a very agreeable flavour, and evidently contains a rich proportion of nourishing and probably easily digestible materials. Still more novel are the kumysgen tablets made by this firm, which, when dissolved in water, yield a kind of effervescing kumyss (koumiss). The tablets consist of small cylinders which slowly dissolve in water with effervescence, and by putting twelve in a bottle of water provided with a screw stopper, an effervescent milk may be obtained. The liquid so prepared is sweet and resembles fresh milk. The greater part of the caseine is apparently in solution, as on addition of acid, clots at once separate. These preparations furnish unmistakable evidence of the desire on the part of the manufacturers to place in the market products of a highly scientific kind, and this being so, we may confidently recommend them to the notice of the profession.

MENTHOL AND EUCALYPTUS COMPOUND.

(THOMAS CHRISTY AND CO., 25, LIME-STREET, E.C.)

This is an interesting preparation, occurring in beautiful colourless, needle-shaped crystals, and obtained from menthol and eucalyptus. Soluble in spirit and insoluble in water, it melts at a low temperature, and the menthol may be sublimed and partly separated. It gives off a fragrant and stimulating smell when placed in hot water, and the vapour so obtained may prove of value in the treatment of disease by inhalation.

THE "MORSTADT" CACHET APPARATUS.

(THOMAS CHRISTY AND CO., 25, LIME-STREET, E.C.)

We have received from the above firm a very useful and simple device known as the "Morstadt" apparatus for the ready preparation of cachets containing an exact quantity of any drug. It consists essentially of two bright metal plates fitted with a hinge, and closing like a book. Each plate contains twelve perforations, which are situated exactly over one another when the plates are closed. The plate that folds over is charged with empty cachets, while the other plate is charged with cachets filled carefully with a definite weight of medicament. A third plate, attached by a hinge, serves to cover the cachets when charging. After the cachets are filled, the empty ones in the right hand plate are moistened by means of a wet roller. The right hand plate and the middle plate are then brought together, and the cachet containing the drug, now securely sealed, may be taken out, and is then ready for use. We have examined the material of which the cachets are composed It consists of the purest rice paper, and is readily soluble and quite neutral to the taste. Those who look upon this method of administration with favour may now enclose medicaments by this simple contrivance in cachets for themselves, and thereby secure the exact dose of a given medicament, of the purity of which, moreover, they can be more certain. These are obvious advantages which not a few practitioners may desire to obtain.

KEFEER.

(THE CIRCASSIAN KEFEER FACTORY, 71, SWANSCOMBE-ROAD, CHISWICK, W.)

Kefeer is the interesting product obtained when cow's milk is fermented. It contains less caseine and milk sugar than fresh cow's milk, while alcohol (from 1 to 1·5 per cent.), lactic acid, hemi-albumen, lacto-syntonin, and peptones are found as the result of fermentation. As fermentation proceeds more of the caseine is digested, presumably by the lactic acid, and the conversion of the sugar of milk into alcohol, carbonic acid, and lactic acid continues. The remaining casein is precipitated in fine flakes, the size of which is not increased by the action of the gastric juice. The preparation above gave on analysis the following results: Total solids, 8·42 per cent.; fat, 1·30 per cent.; ash, 0·57 per cent. The sample has evidently been prepared with care, and it may be used with confidence in those ailments for which koumiss is esteemed valuable. Kefeer is somewhat thick, but of uniform consistence and free from lumps; it has a sour though not disagreeable taste. It is believed to fulfil an important indication in infant feeding—namely, the breaking up of the curd of cow's milk without introducing indigestible matter into the infant's stomach. Like koumiss, it has been observed to exert either a diaphoretic or a diuretic action, and to be specially useful in cases of general defective nutrition.

New Inventions.

THE GODALMING FLEECY HOSIERY.

SOME time ago we received specimens of their fleecy goods from Messrs. Nevill and Co. of Godalming. The various articles supplied—abdominal belts, shirts, hose, &c.—are made with the backs or plain parts of cotton, for the sake of cheapness, and also to hold the wool firmer. The wool itself is specially prepared by hand, to secure greater elasticity than would be obtained after the use of machinery. The wool is selected so that from its nature it may remain soft and elastic as long as possible. For this reason no chemicals are used in its preparation. The abdominal belts are manufactured of a natural-coloured wool and a natural all-wool webbing, so that the front also forms a soft and warm support to the abdomen. The shirts, vests, pants, socks, and knee-caps are kept in stock, of the usual sizes, and any, from the smallest to the largest sizes, can be procured on application. The fleecy webbing is also supplied by the yard, and can then be easily adapted by a needlewoman. We have made prolonged trials of examples of this hosiery. Certainly in cases of rheumatism, rheumatoid arthritis, lumbago, sciatica, coldness of the lower extremities, &c., it gives great comfort to the wearer. Old people find it of great use, and sufferers from lumbago speak very strongly in its praise.

NOISELESS COAL VASE.

THIS will be found to be most useful if not absolutely necessary in many sick-rooms. There is nothing more painful or distracting to a patient whose nervous system is enfeebled and rendered excitable by disease than the banging of coal-vase lids or the dropping of pieces of coal when the sick-room fire has to be replenished. Messrs. Treggon and Co., of 19, Jewin-street, E.C., have, by a simple modification of the ordinary coal vase, succeeded in doing away with the distracting noises which often accompany the use of the ordinary coal vase. It is so arranged that it can without noise be opened and shut and wheeled about the room, and the coals can be lifted out of it and placed on the fire without the least sound being heard. The improvement is undoubtedly one which medical men can recommend and which will be appreciated by both nurses and patients. In the case of students also and authors, say of the temperament of the late Thomas Carlyle, it is impossible to exaggerate the amount of mental acerbity which will be spared by the employment of this simple and elegant novelty.

THE LANCET.

LONDON: SATURDAY, MARCH 26, 1892.

WE cannot but feel gratified at Mr. PARTRIDGE'S persistence in appealing to one Court after another for judgment against the Medical Council with regard to its action under the Dentists Act in erasing his name from the Dentists' Register. By such persistence he has brought into clearer form and expression the nature of his offence and the real powers of the Medical Council, as "a domestic forum"—a "domestic tribunal" (using the language of the Master of the Rolls), to purge the dental profession of sins that would discredit it, and lower its character in the estimation of the public. The facts of Mr. PARTRIDGE'S case are very simple. He was on the Dentists' Register in virtue of a dental diploma from the Royal College of Surgeons of Ireland, 1878. On obtaining this diploma he undertook to his College not to attract business by advertising or any other unbecoming practice. Nevertheless he did so, and continued to do so after the remonstrance and repeated warnings of his firm but merciful College. In 1885, for this behaviour of Mr. PARTRIDGE, the College withdrew or cancelled his diploma. In June, 1886, the General Medical Council ordered the erasure of his name and qualifications in consequence of his name having been removed from the list of licentiates of the Royal College of Surgeons of Ireland. In June, 1887, the High Court of Justice granted a *mandamus* to restore his name to the Register, on the ground that the Council had not, before removing the name, investigated the case for itself, as required by the Dentists Act, but had simply acted on the procedure of the Irish College, duly reported to them. This decision of the High Court of Justice left intact the right, and even the duty, of the Council to form its own opinion of Mr. PARTRIDGE'S conduct in the light of Section 13 of the Dentists Act, and to act accordingly. In the November following, the Council, on the report of the case by its Dental Committee, proceeded to a consideration of it. Mr. PARTRIDGE had been summoned, but did not appear either in person or by any representative. The Council resolved that he had committed the offence charged of wilfully violating the declaration not to attract business by advertising, that in the opinion of the Council this is disgraceful conduct in a professional respect, and that the registrar be instructed to erase the name from the Dentists' Register.

The trial on which we are commenting before the Court of Appeal is the last of several attempts to put Mr. PARTRIDGE'S conduct in a different light, and to have the judgment of the Medical Council set aside. No lawyer will disparage the strength of a Court composed of the Master of the Rolls, Lord Justice FRY, and Lord Justice LOPES. Their judgment is exceedingly clear, and involves not only the complete failure of every contention set up by Mr. PARTRIDGE'S counsel, but a strong expression of approval of the course pursued by the Council. The Master of the Rolls ended his judgment by these significant words: "I cannot part with this case without saying that so far from doubting as to whether they (the Council) were right or wrong, I am perfectly certain they were right." Mr. PARTRIDGE'S counsel tried to show that the Council had not properly exercised its powers, that it had acted without sufficient evidence, that even barristers were known to advertise or do something like it (a statement which seemed very much to surprise the eminent judges), that Mr. MACNAMARA, as representative of the College of Surgeons on the Council, was both accuser and judge, and that from all these facts an inference of malice might be drawn. The Court took an entirely different view, and, as we have said, fully justified the methods and the conclusion of the Medical Council.

It is of course true that the decision of the Court of Appeal in this case only applies to the case of a dentist advertising after he has solemnly undertaken not to do so. But all the judges let fall expressions which signified pretty plainly that in their opinion advertising by dentists is a grave offence, to be censured and punished as much as in medical men or in barristers, and decidedly to be punished in these. The Master of the Rolls struck the right note when he said, "No one need become a member of the dental profession unless he desires it. I say the authorities—this domestic tribunal—have a right to determine if it is within reason whether the conduct is or is not disgraceful professional conduct." A man enters a profession for the advantage and respectability implied in the conditions and discipline of its membership. A diploma is the honourable alternative of advertisement. It is the *testamur* of judges as distinguished from personal boasting, in which no real value resides. If a man resolves on the latter method of appealing to the public, he should in justice abandon the former, and he should do it willingly. The public, too, must make up its mind to elect between legitimate practitioners and quacks. It is altogether unreasonable, as we have lately said, that a man should wish for the incompatible advantages of being in a profession and acting as if he were entirely superior to its rules and laws. These rules and laws are made in the interest of the public. And unless they are to be enforced on barristers, solicitors medical men, and dentists, frauds and deception of the most cruel kind will be practised. We maintain that such domestic discipline of professions is eminently needed, and that the Royal College of Surgeons of Ireland and the Medical Council have in this case merited the approval of the entire medical profession, as they have earned that of the Court of Appeal.

LAST week we gave some account of the health administration of the last London County Council, and we referred more particularly to the work which had been undertaken under the Housing of the Working Classes Act. We propose here to discuss briefly the position of the Council in respect of health administration generally, and in doing so it is necessary to point out that until the Public Health (London) Act of 1891 came into force at the beginning of the present year, the Council has had very little, if any, statutory relation with the work of disease prevention in London.

The Local Government Act of 1888, which brought the Council into existence, enabled sanitary authorities within

the administrative county to reappoint their medical officers of health under conditions that required the Council to contribute one-half of the salaries of these officers, and these contributions on the part of the Council were the occasion of empowering the Local Government Board to control the appointment and removal of the officers. A certain number of the sanitary authorities availed themselves of this opportunity of reducing local expenditure, but others held aloof; and even those which circumstances required to make new appointments did not always think it desirable to surrender their full control over their officers. One indeed (Shoreditch) thought it well to attach an altogether inadequate salary to a very responsible office, and to pay this trifling salary itself, and thus to escape the protest which both the Local Government Board and the County Council might have made against an arrangement which showed how completely the Shoreditch vestry failed to recognise its responsibilities. Under these circumstances it is very much to the credit of the medical officers of health of the London districts that they have cordially coöperated with the Council's medical officer in regard to the work of observation which the latter has undertaken. Notable instances of this coöperation became known to us during the late Council's tenure of office, and we may cite the speedy suppression of an outbreak of typhus fever, which threatened to assume serious proportions, in south-east London, and the investigation of typhus fever prevalence in London, concerning which the medical officer of the Council recently presented a report to his authorities, as evidence of this coöperation, on which we commented at the time.

The Council's first duty was to communicate to Mr. RITCHIE the amendments of the London Public Health law which it thought to be necessary, and, as evidence of the nature of the Council's work in this matter we may recall to mind the testimony of Mr. RITCHIE when he introduced his Bill into the House of Commons. Thanks to this statesman, a very useful measure has been made operative in London. By the Public Health (London) Act the Council has been put in touch with sanitary administration in all parts of the metropolis. It is impossible for sanitary authorities to make new appointments either of medical officers of health or sanitary inspectors without receiving from the Council one-half of the salaries which they pay. The Commissioners of Sewers have already re-elected their officers, and the Council will therefore in future pay one-half of their salaries. By degrees therefore the influence of the Council is being extended into all parts of the metropolis, and we may assume that in a very short time London, for health purposes, will be united. The Council, moreover, from the beginning of the present year will receive from medical officers of health, not only copies of their annual reports, but of special reports relating to outbreaks of infectious diseases in the several districts, and it may be expected that this knowledge which the Council will possess will prove of considerable value to the metropolis. The Council, too, is empowered to make by-laws for the prevention of nuisances which will enable it to render useful service to the metropolis in making life more comfortable and the conditions of London more wholesome.

But the chief powers which the Council possesses are to be found in two sections of the Act. It is authorised by these to undertake itself any duty which devolves upon sanitary authorities under the Act, and in respect of other matters it may make representation to the Local Government Board, and may be empowered by that Board to exercise any function which primarily is vested in sanitary authorities. It is evidently intended that the Council should watch over all the details of the administration of sanitary authorities, should call attention to any deficiency which may be detrimental to the public, and ensure that lax administration shall no longer continue. Upon the Council and upon its medical officer, therefore, is thrown a great responsibility; but, judged by the work which has already been done, there is no reason to believe the requirements of London will not be fully met.

For the purposes of a complete health administration further legislation is still needed. We noted the other day the demand of the Metropolitan Asylums Board to be created a sanitary authority. Whatever might have been the possibility of endowing the Managers with these powers some years ago, this has become altogether impossible since the Public Health (London) Act was passed. It cannot indeed be long before some of the more important functions of the Managers are transferred to the Council, and we shall gladly see the Council recognising to the full its new responsibilities, so that it may be ready to undertake at a fitting time the larger duties which must devolve upon it.

The London County Council, in respect of the health administration of London, has an immense future before it. It is evidently preparing itself for the proper performance of its duties. It has created a new Health Department, with the medical officer at its head, and it may be expected that the next three years will not pass without leaving its impress upon the sanitation of the metropolis.

THE case of "HANBURY *v.* HANBURY," in which the plea of insanity was put forward as a defence in a divorce suit, is of exceptional interest, in so far as this plea had not previously been urged during the more than thirty years that the Divorce Court had been established. The case was tried before the President (Sir C. BUTT) and a special jury, and the hearing occupied several days before the decision was arrived at on the 17th inst. The circumstances under which the petition was brought were briefly the following. The respondent was a partner in a brewery business, and was married to the petitioner in 1875. They cohabited until 1886, and six children were born of the marriage. They had for some time lived happily together, but by 1883 Mr. HANBURY had taken to indulgence in drink, with the result that he had not only used personal violence, but even threatened to shoot his wife. In 1883 he became a voluntary inmate of an asylum for inebriates on at least two occasions. In 1884 he was placed in a private asylum, under certificates, suffering from acute mania, with delusions. In the same year a petition for separation was compromised, and Mrs. HANBURY'S allowance was raised from £500 to £800 a year; and it may be taken that no question of pecuniary motives entered into the case, as Mrs. HANBURY, on the one hand, not unnaturally sought that due provision should be made for herself and the children; while, on the other, it appeared

that Mr. HANBURY had shown every disposition to do what was proper in this respect. In 1886 Mr. HANBURY was again placed in a private asylum, but was discharged after a short time. His wife then finally separated from him. Since that date Mr. HANBURY had been from time to time under restraint as a lunatic, and a brother of the petitioner, who said that in 1880 he first noticed that the respondent had taken to drink, alleged, in cross-examination, that from 1886 to 1889 he had not seen him thoroughly sober during the whole time. Several medical men, including experts in lunacy, who had been consulted or who had had him under their care, gave evidence as to the respondent's mental condition. There is no room to doubt, from this evidence, that he was subject to attacks of recurrent mania accompanied by delusions, and more or less associated with excessive indulgence in drink. These attacks occurred at irregular intervals, and they had the effect of causing Mr. HANBURY to become in turn depressed, wild, excited, abusive, threatening, cruel, and dangerous. The medical testimony was to the effect that the indulgence in drink was the result, or at any rate the concomitant, and not the cause of the insanity—a point which we regard as not by any means clearly established as to the drink question prior to 1883, when the respondent first voluntarily placed himself under control. This reservation is not unimportant when we bear in mind the varying opinions held on this subject in individual cases, and the risks and evils that are apt to result from confused notions as to the respective positions that should be assigned to drink and to insanity in relation to the question of responsibility. At all events, in the case under consideration the outcome of the trial was, in the first instance, to establish the existence of insanity in the respondent, who pleaded that if the acts of cruelty and adultery alleged were committed, he was a lunatic at the time, and not responsible for his actions. It was shown, however, that the insanity was of the recurrent form, with intervening periods of sanity; that he was very intemperate in his habits, and had suffered from delirium tremens; and, further, that when not under the influence of drink he was of a kindly and affectionate nature.

The President, after referring to the painful nature of the case and the amount of sympathy that had been invoked on both sides, went on to say that really the matter must not be one of sympathy one way or the other. There were certain facts to be determined, and a grave and difficult question in this case was as to the effect of insanity as a defence to a suit for dissolution. That, broadly stated in that way, so far as the learned judge was aware, had never been decided in this country, and he did not know whether in its broad aspect it ever would be decided in this country, because there was insanity and insanity, and he could well conceive that there might be cases in which insanity might be a defence to an action for dissolution of the marriage. Having dealt with the evidence as to the cruelty and adultery, which his lordship said was abundant to entitle the wife to the relief she sought, he then came to the plea of insanity. His view on this point was that it must be a lasting and abiding insanity, something distinct from recurrent insanity, and he was not at all satisfied that the plea was a good one. The main object of the Divorce Act, in his opinion, was not so much punishment or retribution for marital offences as protection to the party. His lordship went on to say that, assuming that the acts of violence committed by the respondent were not brought about by intemperance, but were the result of hereditary disease (which, we may remark, was maintained by the medical witnesses), he should still be disposed to hold that acts of cruelty committed in these fits of mania entitled the wife to relief. But in this case, if the wife proceeded under the criminal law against her husband for violence and cruelty, she would be able to get relief from her husband on the plea of insanity by his being dealt with as a criminal lunatic; and, on the footing here urged by the learned judge, it is difficult to see why the plea of insanity (involving irresponsibility) should be operative in one case and not in the other.

His lordship asked the jury to find whether the mania resulted from drink, or whether the drinking resulted from the disease. There was abundant evidence that this man drank heavily and constantly, and it was said that if the drink could not form the excuse, then the disease was hereditary; but no evidence whatever had been offered that any of the ancestors of Mr. HANBURY suffered in the manner which was suggested, while the respondent himself had not elected to give evidence, because it was said it would be dangerous to his health if he did so. This absence of the respondent from the court is one of the weakest and least satisfactory portions of the case, and it testifies to the incomplete, not to say illusory, character of the evidence which may be produced in cases of the sort. For if Mr. HANBURY at the time of the trial was in one of his lucid and happier intervals, his appearance would not support the allegation of insanity; if he were then in a state of mania he might not be in a fit state to do himself justice and to refute charges—possibly unfounded—made against him, or to give any evidence (if he had it) exculpatory of his own conduct under circumstances that were merely suspicious and not proof positive as to guilt. There is no reason for implying that in the HANBURY case all was not carried out in a legitimate and proper manner; but it is sufficient to illustrate the evils and difficulties that arise, or could be made to take effect, where from motives that were either unworthy or not straightforward the question of insanity comes to be mixed up in divorce suits. It is not difficult to conceive of a husband or wife contriving to neglect an insane spouse and bring about adulterous intercourse, and then, in the unavoidable absence of the respondent's evidence, gaining a decree *nisi*. It is to be hoped, therefore, that the plea of insanity will not come to be urged frequently in cases of this sort, as the variations from the normal healthy mental condition of an individual in the direction of eccentricity, drunkenness, and insanity, and in relation to immorality and cruelty, are too ill-defined and too much a matter of individual opinion for any satisfactory general rule to be laid down. We are bound to say that upon the evidence in the case of "HANBURY *v.* HANBURY" we are not surprised that the jury arrived at the verdict that the respondent had committed the acts of cruelty and adultery charged, and that at the time he was capable of appre-

ciating their nature and consequences. His lordship pronounced a decree *nisi* for the dissolution of the marriage with costs, and custody of the children; and on application he granted access to the children on behalf of the respondent, subject to arrangement.

IT says much for the widespread interest taken in the deeper problems of pathology that so recondite and difficult a subject as that of the manner in which the organism is rendered insusceptible to the action of specific virus should have attracted such large audiences at the Pathological Society, and that the debate, extending over three sittings, should have been so well sustained. Certainly, the interest in the question was heightened by the quasi-romantic character of the doctrine of phagocytosis, wherein the process of protection resolves itself into an active defence by the living cells of the body against the assaults of the bacterial host; and the knowledge that this doctrine would be as warmly opposed by one section of pathologists as it would be supported by the other doubtless quickened the anxiety to hear both sides of the question set forth. Now that this debate is over, and the advocates of phagocytosis and of chemical protection have expounded their views, it is natural to inquire where we stand. It would be impertinent and cynical to dismiss the question as if nothing at all had been gained by its discussion; or as if all the labour which has been expended in attempts to solve it had left us in as much ignorance with regard to the real problem as before. This is not the fact; but we think it may safely be said that the whole problem has by no means been solved, and that probably Dr. SIMS WOODHEAD is right in his belief that the eventual solution will be found between the two sets of doctrines that have been so skilfully advocated.

Sir GEORGE HUMPHRY, in the remarks with which he closed the debate, did excellent service to the cause of pathological inquiry by pointing out that the matters about which there has been so much debate involve questions which at the present time are practically insoluble; and in illustration thereof he alluded to the known clinical facts of the history of specific fevers, and the lack of explanation—other than the discarded theory of "exhaustion"—of the phenomenon of their sudden subsidence after going through a definite cycle of evolution. Some profound change must have taken place in the organism to produce this self-limitation of the disease, but no experimentalist has been able to prove in what that change consists. So is it with this question of "immunity"; for although Dr. SIDNEY MARTIN urged that by experiment the investigator is in a better position to control circumstances than by the clinical observation of disease, yet between the artificial immunity—or, as Dr. RUFFER more aptly termed it, "resistance"—induced by the experimenter and the natural protection which experience teaches is produced by one attack of a specific fever there is at present no very close relation. Dr. SIMS WOODHEAD, at the commencement of his reply, emphasised this difference by speaking of the animal which had been artificially protected as in no way comparable to one naturally resistant to infection. It is well to bear this in mind in attempting to gauge the importance of researches upon "immunity," and in endeavouring to determine in what manner the resistance to viruses is brought about. But it is also well to recognise that the special question contained in the latter problem is not capable of a limited or narrow treatment. Indeed, from the wealth of facts furnished by the numerous speakers in this debate, it is clear that the subject is beset on all sides with matters which require the profoundest study. To attempt anything like an adequate analysis of this discussion would far transcend the limits now at our disposal, and we must perforce be content to discuss only the main issues at stake, although fully conscious of the imperfections of such a mode of regarding the matter. Thus, then, we have on the one hand an explanation of the resistance opposed to infective disease—or, more strictly speaking, to pathogenic microbes—in the active antagonism of the amœboid cells of the body, the transference of the normal property of phagocytosis, which plays so useful and necessary a part in nutrition, to the special property of active destruction of microbes. On the other hand, it is contended that this bactericidal property is an attribute of the fluids of the body as distinguished from the cells; and the presence of bacteria within cells is explained either as being in accordance with the ordinary functions of leucocytes, such as their ingestion of any foreign particles, or as evidence that the bacteria themselves are the aggressive parties, and that it is they which consume the phagocytes and not the converse.

When, however, we regard the question as one between the operation of the living cells and of the fluids of the body, we cannot but agree with Sir G. HUMPHRY and Dr. W. HUNTER that the distinction is more artificial than real. The day has passed for maintaining a strictly humoral as opposed to a solidist theory of pathology. Physiology teaches that cells and fluids in the living body are essentially interdependent, and that ultimately cell-protoplasm is the centre whence all the vital and chemical actions of the organism flow. Nor can we suppose that this is gainsaid by any who take what has been called the "humoral" side in the present controversy, only they seem to imply that certain constituents of the blood, or, more correctly speaking, certain materials which can be extracted from the blood (and of which there is no proof that they exist as such in the living body), possesses the power of antagonising the action of bacteria or of neutralising their virulent products. Animals which are not naturally insusceptible to such external viruses, it is averred, may become so artificially by the introduction into the blood of "antitoxines"—products, it may be, of the self-same bacteria formed in the process of their cultivation in suitable media. This is, we are aware, but a bald statement of the substance of the "humoral" position, which has received so much support from fact and argument at the hands of numberless investigators both in this country and abroad. During the recent debate these arguments were concisely stated by Drs. KANTHACK and MARTIN and Mr. HANKIN. On the other hand, phagocytosis, apart from the microscopical evidence adduced in its favour, has the merit of being a more tangible and material doctrine; and there is something singu-

larly attractive about the details of the process in respect to the question of protection and insusceptibility, whether natural or artificial, that may bias the mind in its favour. It is the outcome of a series of observations which abound in interest, and which bring into close connexion normal and pathological processes with a deftness that is to be admired. The action of certain substances in attracting amœboid cells and that of others in repelling them, as shown by a series of beautiful experiments, has been drawn into the subject, although the crucial difficulty alluded to by Professor BURDON-SANDERSON in the matter is that it entails the acceptance of some specific powers not possessed by the leucocyte in its ordinary state. The remarks of Drs. WRIGHT and ADAMI, as well as those of Dr. HUNTER and Dr. SIMS WOODHEAD, seem to imply that it is possible to accept the essential principles of both views of the production of "immunity," chemical or humoral changes being then considered as supplying the phagocytes with the specific power of resisting the inroads of specific organisms. In Dr. RUFFER'S exposition we have the doctrine of phagocytosis in respect to this question clearly enunciated, and those who read his paper will be fortified with the strongest reasons for accepting it, so far as it is intended to be accepted, in place of a more subtle doctrine of chemical protection.

The debate, it will have been noticed, was mainly in the hands of the experimental school of pathology, a school, which, as the President pointed out, has done much in this country in spite of disadvantageous circumstances. But the question could not have been fully considered had there been no reference to clinical knowledge, and the contribution of Dr. BRISTOWE as well as the remarks of Sir G. HUMPHRY were especially interesting in this regard. Viewed from this aspect, it is apparent that there are several matters in the history of specific diseases that require elucidation at the hands of the bacteriologist; these are of almost equal importance with the more obscure question of "immunity"; such, for instance, as the affinity of certain viruses for special tissues of the body, the varying types of fever that accompany the diseases, the singular fact of critical defervescence in several of these affections, and the possibility of aborting specific fevers by treatment. These and similar topics need to be studied anew in the light of modern research. Therapeutically, the doctrine of phagocytosis may be thought to receive support in the fact that the most efficacious way of meeting the inroads of infective disease is by using every means to fortify the vital powers of resistance against the invader.

THE Medical Society of the State of New York received, on Feb. 3rd last, a report from a special committee, consisting of Dr. A. JACOBI, Dr. W. C. WEY, and Dr. B. F. SHERMAN, on capital punishment. There can be little doubt that the Society has been led, however imperceptibly, to the production of this report by what has lately been enacted near them in carrying out the extreme sentence of the law. But this is not the subject labour of the committee; the committee appears to have laid itself out to study, from the medical side alone, the question of capital punishment. All reference to metaphysical questions is avoided. The members of the committee felt that to ventilate the question of capital punishment, its perpetuation or abolition, and the subjects connected therewith—viz., the nature of crime, of responsibility or irresponsibility, of the cerebral functions called judgment and will, the existence or non-existence of a free will and its limitations, from any other than an anatomical and physiological point of view—that is, a strictly scientific point of view—would not be the correct method for them to follow. Most wisely, therefore, they confined themselves to the consideration of a subject in which trained thinkers on questions medical would feel the deepest interest, and in which they as trained thinkers would be most useful in advising and guiding a nation at large.

From this standpoint the reporters deliver their judgment. "Crime is an evil impulse that ought to be controlled. The controlling powers are the cerebral functions of judgment and will." This is the only general proposition they offer. They proceed thence on physical argument. "Whoever is held responsible for his aberrations and his wrongdoings is termed and punished as a criminal." But "Whoever is considered irresponsible is no longer a criminal to be punished, but a lunatic against whose vagaries society takes pains to protect itself." So amongst civilised peoples both the punishment of the criminal and the incarceration of the hopelessly insane are, or ought to be, but different modes of self-preservation. By truly civilised men they say "the theory of revenge or retaliation has been given up long ago. Their minds are more bent upon the preservation of the physical and moral health of the community than on the spiteful annihilation of the rebel against the common welfare."

The reporters proceed to argue with great skill that the boundary lines between responsibility and irresponsibility are uncertain boundary lines, and they point out that many of the physical changes which lead, or can lead, to criminality may be preventable, and may be due to no fault of the criminal in so far as their first starting forth is concerned. The servant girl who lets a baby fall may maim it for life, or may so affect its brain as to change the current of its thoughts and feelings into criminality. The development of a syphilitic infant into either a healthy man or an invalid, or the development of the luckless possessor of a cerebral endarteritis or gumma, with their physical or moral consequences, into a healthy man or an invalid, may depend on the diagnostic knowledge and therapeutical skill of a practitioner of medicine. The injudicious use of forceps—to which might well and wisely be added the judicious and skilful but necessary use of the same instruments, or the injudicious avoidance of their use in some cases of prolonged labour from contracted pelvis; the influence of disease and conditions of the heart and circulation on the brain and the cerebral functions; the diffuse affections of the brain from various physical causes; and, above all, that inanition of brain which springs from overwork and anxiety, are adduced as common causes of aberrations with which medical men are conversant from their daily observations of mankind, and which account for very much of what the ordinary and even the judicial mind designates as crime and visits with punishment, sometimes, it would seem, on the principle of retalia-

tion. The reporters add, "the symptoms of most of these conditions may resemble each other very much; delirium, mania of all kinds—mainly persecution mania—puerility, irascibility, diffidence, misanthropy, are just so many symptoms of acute, subacute, and chronic forms of disease. Epilepsy is a frequent cause of outbreaks of excessive violence. At this moment a negro is on trial for murder. He is known to have severe attacks of epilepsy. Experts have sworn he is a criminal. Experts have sworn he is diseased and not responsible. What does it teach? It teaches that there is surely reason for a doubt as to the causation of the criminal act. It should also teach that society, as represented by the jury, and as represented by the humane spirit of the times, ought to keep a sharp look-out on its own dignity. A man may blunder, but society cannot afford to be brutally mistaken where it is at the same time accuser, judge, jury, and executioner."

The concluding part of the report to which we have thus directed attention is as follows: "This Medical Society of the State of New York, having the advantage of physiological knowledge, and being aware of the difficulties of being always correct, and of the absolute impossibility of making a positively safe diagnosis in every case of alleged crime or presumable cerebral disease or anomaly, expresses its opposition to the perpetuation of capital punishment and its hope that means will be found to protect the community by less uncertain and less inhumane methods."

Whilst by no means prepared to express our own concurrence with the above forcibly propounded opinion that capital punishment should be abolished, we cannot withhold our admiration of the humane impulses which have prompted and the scientific spirit which has directed the Medical Society of the State of New York in their report on a matter of supreme interest and importance to the people and the Government of every civilised community.

Annotations.

"Ne quid nimis."

THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD.

THE announcement that Dr. Buchanan, F.R.S., has intimated his intention to resign the post of medical officer to the Local Government Board at the end of the present month will be received with some surprise by those who, knowing the unremitting attention he has bestowed on his official duties up to the last moment, are able to appreciate the exceptional abilities which he renders and has all along devoted to the public service. His career, first as a London physician who devoted himself particularly to the study of the continued fevers, next as a temporary inspector under the Privy Council, and finally as medical head of the Public Health Department of the State, has been throughout one of great distinction; and we have only to refer to the able contributions which he made to Sir John Simon's former reports to the Privy Council, and next to his own annual reports to the Local Government Board, to recall a series of public health literature which we believe to be unique in value and importance whether in the English or other tongues. Dr. Buchanan received the Fellowship of the Royal Society many years ago, he is now sitting on the Royal Commission on Tuberculosis and the Nomenclature Committee of the Royal College of Physicians, he is also a member of the Senate of the University of London; and he therefore lacks no means for bringing his matured experience and advice to bear upon those branches of science in which he has so long taken, and still takes, such active interest. His loss will, we are sure, be much felt by his colleagues in the Medical Department, who have always considered that in their chief they had a staunch friend and counsellor.

THE LOADING OF MERCHANT SHIPS.

A BILL to amend the law relating to the loading and provisioning of merchant ships has been introduced into Parliament, and is influentially supported not only within the House, but also without, since it is strongly advocated by Mr. Plimsoll. With its aims most people will sympathise, especially when it is borne in mind that, so far as loading is concerned, the existing provisions of the law have proved wholly inadequate. The Cardiff magistrate recently, when inflicting the maximum fine in three cases of overloading, took occasion to remark that such fines as he could inflict were no punishment, because in many overloading cases the freights earned by excessive loading were greater than the fines, so that when these latter had been paid there remained a balance to the credit of the overloading. The present Bill proposes to deal with this difficulty, not by the imposition of a larger fine, but by the simple expedient of authorising the Customs officer, or "other prescribed authority," to withhold the clearance papers of the overloaded ship until the necessary lightening is effected. This remedy, if proper officers are employed in the discharge of the duty and due vigilance is exercised, will be much more satisfactory in every way than the present system, and will have the double advantage of being milder in form and more effective in operation. The other subject dealt with in the Bill is the inspection of food stores, and substantially the proposal is to dispense with the complaint by the crew now necessary to give jurisdiction to the officers authorised to inspect, and to provide for systematic inspection by a "prescribed officer" of all ship's stores of food before clearance. It is very difficult to form any notion how such a change in procedure would work. It might result, as it is intended to result, in a more effective supervision than is at present exercised. On the other hand, it might relegate the whole subject to a region of routine in which systematic inspection would mean an inspection systematically bad. The importance of securing fit and sufficient supplies of food for the sailor cannot be overstated, and we wish the highest success to those who have interested themselves in the most excellent objects to which this Bill is directed.

TOBACCO AND DEPOPULATION.

THOUGHTFUL Frenchmen, it is well known, are coming to regard with some uneasiness the signs of stagnation, if not of actual decrease, in the population of their country. Malthusian doctrines, however attractive in point of economy, do not now appear to exercise that fascination which once was theirs, and which we cannot doubt has much to do with the reduction of reproductive energy. We are reminded, however, by the author of a paper on this subject recently published, that other causes may have contributed somewhat to the same result. Under the heading of "Le Tabac et la Depopulation de la France" M. E. Decroix, who is the founder of a Society intended to check the abuse of tobacco, assures us that, among such, a prominent place must be assigned to the influence of tobacco. The arguments by

which he seeks to fortify this opinion are by no means void of ingenuity, and are supported by the evidence of investigations and information contributed by various medical men, and of the vital statistics afforded by different departments of the country. Among the former there seems to be a consensus of opinion that tobacco consumed in excess exhibits in various degrees a constant sedative influence upon the reproductive system. A series of experiments by Dr. Depierras are quoted in order to show that the same rule holds good among the lower animals. In this case the offspring of cocks and male rabbits exposed to the fumes of tobacco are said to have proved feebler and shorter-lived than those born under natural conditions. The conclusions founded upon statistical testimony are very emphatic, more so, indeed, than we should consider to be justified by the accuracy of the method pursued in this inquiry. After comparing ten departments in which a greater, with ten others in which a less, amount of tobacco is consumed, M. Decroix, by summing up their collective disparities, has no difficulty in showing that in the former there is a marked excess of deaths, of stillbirths, of divorces, of illegitimacy, which he takes to be a mark of morbid vitality, and a falling off in the size of families. When, however, we compare the departments with each other separately, we frequently miss that evident connexion between cause and effect which the author's views on tobacco would lead us to expect, and it is clear that we must in many cases allow for the action of other influences in producing the result for which it is blamed. Under the circumstances we cannot agree with all the propositions advanced in this paper. At the same time it cannot be denied that the excessive use of "the fragrant weed" is to be numbered among the forces opposed to a continuance of healthy life.

THE INSANITARY CONDITION OF BARRACKS.

IT was not to be expected that Lord Wolseley's recent statement strongly condemnatory of the condition of many barracks in England and Ireland would pass unnoticed, and Mr. Hanbury called attention to it in the House last Monday. His lordship is reported to have said that he could point to many barracks which were a crying disgrace to the nation; but they were used year after year, although they were known to be abominable habitations for human beings. Notwithstanding that the fact had been reported for the last fifty years, nothing had been done except by the present Government, who had done a little. Mr. Hanbury wanted to know from the Secretary for War whether he could specify, or would call upon Lord Wolseley to specify, the particular barracks referred to, and whether this state of things would be entirely removed by the large amount now being expended on barracks, and if so, within what period of time. Mr. Stanhope replied that, as regards barracks generally, he had given full information to the House, both as to the urgent cases requiring attention and the work being done, but the sum at his disposal would not suffice to rebuild all the barracks; and, in further reply to Mr. Hanbury, he said that the barracks which were admitted to be insanitary were being put into repair, and that troops would not be put into them until this was done. It must be admitted, we think, by anyone who will compare the buildings, whether barracks or hospitals, that have been erected of late years with those which were in existence fifty years ago that there has been an immense change for the better, and every year more attention seems to be devoted to providing for the health and comfort of the soldier. But this does not really touch the question as to whether there are not many old barracks of such a character and construction that they are quite behind the sanitary requirements of the age in which we live. Attempts have been made from time to time to improve them, but it is questionable whether in some instances these attempts have been, or are likely to be, successful or worth the outlay. The most satisfactory and successful efforts will be made in another direction—viz., in the provision of new barracks as a substitute for buildings of an old and radically bad construction. This takes time, no doubt, but it is, nevertheless, the direction in which army sanitarians should move.

THE TEETH OF SCHOOL CHILDREN.

THE first report of the committee appointed by the representative board of the British Dental Association to conduct a collective investigation as to the condition of the teeth of school children was presented at the last meeting of that Society, some comments upon which appeared in our columns. The committee was convinced "that if more attention were paid to the teeth of children the general sum of public health and well-being would be materially increased, inasmuch as the disastrous effects frequently produced, even in early adult life, by the decay and loss of teeth may, in a very large majority of cases, be traced to disease of those organs in childhood." A further contribution on this subject is a paper by Mr. Denison Pedley and Mr. Sydney Spokes, after an examination of over 900 children at the Hanwell district school, in which they state their opinion that the lamentable state of the teeth from caries ought to be combated by systematic treatment by a qualified dental surgeon appointed to such institutions, and in their report they bring forward many sound suggestions. With regard to the temporary teeth, it is popularly believed that they are not deserving of any particular attention, as in the natural course of events they must give place to others of the permanent set. Whilst there may be some ground for this view, it is nevertheless true that much misery to children, as well as detriment to health, can be avoided by intelligently watching and treating temporary teeth. Between the age of six and seven the first permanent molars appear, and are only too often mistaken as belonging to the temporary set, and these most important teeth are allowed to decay without any effort to save them. Irregularity, which is one of the great predisposing causes of decay, can often be remedied by the removal of certain teeth or by the application of some mechanical apparatus.

DEATH BY FALLING.

OF late years a considerable, and perhaps a disproportionate, amount of attention has been devoted to the scientific explanation of the state of unconsciousness. The public, as well as the professional, mind has been treated *ad nauseam* to discussions on hypnotism. The relations of trance and sleep to each other and to various phases of disease have elicited their share of logical ingenuity and of research. Quite lately again an allied condition—that of the numbed sensation consequent upon shock, such as that experienced in falling from a height—has attracted attention, though beyond the assurances of some who have survived this experience that dread and pain are alike absent we have no certain proof of the existence or the essential character of this merciful torpor. According to Professor Heim of Zurich, who has devoted much time and thought to the investigation of the subject, the sensations at such a time of the sufferer, if so he can be termed, resemble somewhat those of drowning persons. In place of pain there is a process of rapid and involuntary mental activity, succeeded by stupor; series of old memories fly past the mind like scenes in some rapid vision, and life is revised, as it were, on the threshold of death. One is naturally tempted to inquire what is the explanation of this extraordinary state, in which

the final catastrophe appears to be lost in the dream-slumber preceding it. The preoccupation of rapid cerebration, a species of shock in itself, might furnish a clue to the mystery—at all events, as regards the abolition of pain and fear. We cannot help thinking, however, that other causes must be operating along with this, which at first presents itself as the most obvious. The analogy afforded by drowning is, to our mind, especially suggestive. We may remark that here we have to do with a highly probable alterative of normal brain function in the stimulant-sedative influence of a disturbed circulation. The advent of asphyxia implies the turgescence of all venous channels and capillaries, and the increasing accumulation in these of carbonic acid. It appears to us that the same process must occur in falling. As a rule the fall takes place with head downwards. At the same time there is exerted upon the respiratory passages the suction force of the outer air in rapid transit, acting, we may conclude, in much the same manner as water in a large tube which draws into its own volume the fluid contents of any small communicating channel. Thus it would seem at least a reasonable hypothesis that the coma of death in the circumstances referred to, like the same condition in various forms of disease, is essentially a process of deoxidation of tissue with accumulation of carbonic acid.

THE CASE OF SURGEON-MAJOR W. H. BRIGGS.

IT is a source of sincere gratification to us that attention was called in the House of Commons on the 22nd inst. to the case of this medical officer. Dr. Farquharson asked the Secretary of War whether he had further considered the case with a view to Surgeon-Major Briggs being reinstated in the position which he would now occupy in the service if he had not left it; and Mr. Stanhope, in very handsome terms, replied that Surgeon-Major Briggs would be restored to the seniority he held before retirement. It is well known that this officer rendered excellent service in the department, that he did good and skilful professional work in the field, and that he acted, under very trying circumstances, in a chivalric and honourable way. We heartily congratulate him on the result But what we want to know is, who was responsible for the action that was taken in the matter Why was he called upon to resign in the first instance, and how did it happen that his restoration to the service was coupled with conditions that he could not accept, and which, it seems evident from the War Minister's statement, should not have been made?

HEREDITARY SPASTIC PARAPLEGIA.

IN the last number of the St. Bartholomew's Hospital Reports Dr. Howard H. Tooth puts on record four cases which he thinks come into this category. The name is that given by Dr. Gee a few years ago to three cases of spastic paraplegia in members of the same family—viz., father, son, and daughter—which he observed and recorded. Of Dr. Tooth's cases two occurred in one family and two in another. In the first pair of brothers the onset of symptoms took place at the age of fifteen, and in one it was preceded by an injury to one hand. The history of the advance of the disease was similar in the two—viz., weakness of the back, stiffness of the legs, speech stammering at first, latterly becoming inebriate in character, extensor rigidity in both legs, with exaggerated knee-jerks and an absence of pains, ocular symptoms and ataxy. In one case there was slight incontinence of urine, and in the other a marked condition of pes cavus. Of the second two brothers the history differs in no important point, except that the onset of the symptoms was earlier, and there seemed to be more general weakness. The cases, as Dr. Tooth points out, present the clinical picture of lateral sclerosis. This was not secondary to cortical disease, as was evidenced by the absence of convulsion and of mental deficiency, and by the fact that the patients were not affected from birth, but were in two of the cases healthy up to fifteen years of age. Nor can the symptoms be accounted for by a local transverse lesion; because, apart from the improbability of such a condition appearing in two members of the same family at the same age, there is no evidence of disturbed sensibility. It certainly seems, as Dr. Tooth says, that those cases exhibit a clinical condition very closely analogous to Friedreich's ataxy, but differing in some important respects. In those cases the bulk of the degeneration, so far as we are able to judge of pathological anatomy from clinical phenomena, appears to fall upon the lateral columns, instead of, as in Friedreich's disease, on the posterior; and so, instead of ataxy with absent knee-jerks, we find rigidity with exaggerated reflexes. The two classes resemble each other in showing an absence of pupil symptoms; for in Friedreich's disease the pupil seldom, if ever, shows the absence of light reaction, which is so frequent in ordinary tabes.

ENDOWMENT OF ORIGINAL RESEARCH.

A GENTLEMAN has, we are informed, established a scholarship of £100, tenable for one year, for the encouragement of original research. The scholar will be selected by a committee composed of Dr. George Thin, Surgeon-General Cornish, and Professor A. Wynter Blyth. The conditions of the scholarship are that the research shall be in a subject requiring for its elucidation both chemical and bacteriological methods, and the subject will be selected by the committee of selection with the concurrence of the scholar. The work is to be done in the laboratories of the College of State Medicine, 101, Great Russell-street, W.C., and the scholar will have to devote his whole time to the work. Applications should be made by letter addressed to Surgeon-General Cornish, College of State Medicine, 101, Great Russell-street, W.C., on or before April 18th, 1892.

EXPERIMENTS WITH CELLULOID.

A CORRESPONDENT recently forwarded us three varieties of articles made from the material known as celluloid—viz, an imitation ivory dice-box, an imitation tortoiseshell hairpin, and a variegated pattern of a toy bouncing ball. In view of the possible dangers arising from the use of buttons, hairpins, &c., made of this material, we have submitted the above to experiment, and the results are perhaps of sufficient interest to justify record. The articles were, without exception, highly inflammable. On applying a light they burst instantly into a brilliant smoky flame like that produced when camphor is ignited. It was not difficult to blow the flame out, but dense fumes continued to be given off which were quite as inflammable as coal gas, and, on placing a light in the stream of smoke at a distance of six inches above the material, a bright flame instantly ran down and re-ignited the article. Portions of the three articles were next placed on paper at a distance of eighteen inches, in front of a red-hot fire, where the temperature was ascertained to be 100° C. (212° F.). Beyond the softening of all the pieces, and a slight swelling of the tortoiseshell and toy ball sections, no signs of ignition could be observed. The paper on which the articles were resting was then placed at about twelve inches from the fire, where the thermometer showed a constant temperature of 110° C. (230° F.)—i.e., ten degrees above boiling point. In ten minutes the pieces of thin celluloid, of which the ball was composed, swelled out, emitted dense fumes of camphor, and charred, without, however, showing any sign of flame, while the paper was only blackened and scorched. In fifteen minutes precisely a similar occurrence happened

to the hairpin, the imitation ivory being as yet unchanged. Another hairpin and a fresh piece of the toy ball were then placed along with the yet unfired ivory specimen within six inches of the fire. The piece of toy consumed rapidly away in little over a minute, apparently without flame, and the hairpin followed suit in about three minutes. The paper upon which they lay was charred only, not actually ignited. The imitation ivory showed slight swelling under these conditions, but not until the temperature was raised to 145° C. did it puff up and give off abundant smoky fumes of camphor, as in the previous experiments. In no case could it be said that the combustion was accompanied by flame, nor was the paper upon which the articles were resting actually ignited; it was only scorched and charred. The difference exhibited by the ivory specimen in susceptibility to the influence of heat may possibly be accounted for by the fact that, first, it is more dense, and, secondly, it contains a fair amount of zinc salt. On ignition the ash was found to consist almost entirely of zinc oxide. The addition of this metallic salt serves probably to make transparent celluloid opaque and to give it the appearance of ivory. The tortoiseshell pins contained no zinc, and yielded very little ash at all; and while in the toy ball, which was of a variegated pattern, the white opaque spots contained the metal, none was found in the clear portion of the material. All the specimens emitted a strong odour of camphor on rubbing, and more especially the tortoiseshell and transparent variety. Ether also dissolved out camphor from each of the specimens. It would appear from these experiments that celluloid is, generally speaking, not so dangerous as might be supposed, although, in view of the testimony recently furnished by Professor Boys, F.R.S., of the inflammability of buttons made of this material, there are exceptions; but probably these exceptions depend upon a variation in the composition of the celluloid, some preparations, perhaps, containing more pyroxylin, and accordingly less camphor, than others. The manufacturers of celluloid would in any case do well to give their attention to this matter, and by adopting a process which will secure greater certainty in the composition and character of this beautiful material, or by incorporating with it some substance which will render it practically non-inflammable, rid it of the one quality which at present would seem to render its general use not quite safe.

DEATHS UNDER CHLOROFORM.

A DEATH under chloroform occurred at University College Hospital on Wednesday, March 9th. The patient, a young man of twenty-two, suffered from old-standing jaw mischief, and it was proposed to remove some dead bone. Chloroform was carefully given upon lint, and no unusual symptoms occurred until, as the operation was being commenced, the gouge being placed in the carious bone, respiration and the heart's action stopped. The operation was discontinued; the tongue was drawn out of the mouth, and artificial respiration was at once commenced and maintained for a considerable time. Several natural respirations occurred, and care was taken to synchronise the artificial with the natural breathings, but no pulse or heart's movements could be detected. There was free entry of air into the lungs all along, and no delay occurred before restorative measures were commenced. Various efforts to restore the heart's action were made—Nélaton's inversion, nitrite of amyl inhalation, ice in rectum, and stimulation of precordial area, &c.,—but to no purpose. The post-mortem examination showed that the lungs were a little emphysematous, and some old adhesions existed. The heart was hypertrophied, with rather marked thickening of the coronary valves, but no vegetations, and the columnæ carneæ were hypertrophied. In this case careful note was taken throughout, and it was strikingly manifest that no respiratory or cardiac weakening occurred before the final and absolutely sudden extinction of life. There was no overdose in the ordinary sense of the term; indeed, no chloroform was being given at the moment, and yet there was, on the other hand, complete narcosis. The pathological condition of the organs was insufficient to throw any light upon the death, so the eye-witnesses were compelled to accept the fatality as an instance of cardiac syncope due to the action of chloroform. Some of the chloroform employed had been used for other patients without any ill effects having occurred. Another death occurred from chloroform on March 14th at the General Hospital, Birmingham. The patient, a man aged thirty-eight, suffered from an "internal gathering." He was chloroformed by a senior student with a view to operation—the second, he having passed successfully through one some time before. After four minutes breathing ceased and was not restored, although remedial measures were at once adopted. Ether was not given in this case because the bronchial tubes were slightly affected. The coroner's jury found that the deceased died from heart failure. We have not sufficient evidence before us to comment at length upon the case, but it cannot but strike the reader that if ether were really contraindicated by the state of the patient's lungs, it was a pity the anæsthetist did not use the A.C.E. mixture—certainly a safer anæsthetic than chloroform.

INFLUENZA IN LONDON.

CASES of influenza are still occurring in the metropolis, and indeed during the past week there was a slight increase in the number of deaths attributed to it over those recorded in the preceding week. Thus the Registrar-General reports that the deaths "primarily attributed to influenza, which had been 61, 34, and 30 in the preceding three weeks, were 35 last week," and the cases in which influenza was noted as a secondary cause rose from 5 to 9.

THE OPIUM TRAFFIC: FOR AND AGAINST.

THE responsibility of the Indian Government for the evils associated with the consumption of opium in the East has never been—and, indeed, under present conditions, cannot be—entirely repudiated. It would be remarkable, nevertheless, if the monopoly which it possesses in the production and sale of this drug were wholly incapable of defensive argument. We need not be surprised, therefore, to find that it can rely upon the support of not a few experienced advocates, men of intelligence and judgment, for its justification in this matter. In the opinion of these gentlemen, among whom we may number a recent correspondent, the dangers and the degradation of moderate opium-taking have been exaggerated by anti-opium agitators. Its beneficial qualities as a sedative of the vaso-motor system and a febrifuge, it is argued, have, on the other hand, been ignored, whereas they should at least suffice to justify its moderate and common use, which is as excusable as that of alcohol. We have already discussed these arguments, and it was but very recently (March 5th) that we protested against the view that the therapeutic value of this purely medicinal agent should be accepted as excusing its regular and practically unguarded consumption. Whatever may be said in favour of this practice, opium still remains essentially a poison, and a powerful one. As such, it should not be openly committed to the hands of any or everyone. Its regular use, however moderate, is altogether unnatural. We are unable to see how, even amid the conditions of tropical life, this can ever be justified, except in the treatment of disease and under medical supervision. It con-

stitutes no valid excuse for the opium habit to say that the same freedom should be allowed for its indulgence as in the case of alcohol. The position of the two agents is by no means identical. Alcohol doubtless is in its pure state a poison. As commonly sold it is quite a different substance. Disastrous as its effects have often proved—and we would not for a moment defend its abuse—it still remains the less potent drug and the lesser of two evils. As matters now stand, its privilege of sale is already too freely allowed, and an argument founded on comparison should, in our opinion, rather claim its restriction than the liberation of the rival narcotic. It has been asserted that if opium-taking be suppressed in the East the trade in liquor will grow in proportion. We do not believe that this result is inevitable. It is not probable that either evil, if resolutely met, will be found impossible of regulation.

LEGISLATION AND HABITUAL DRUNKARDS.

THE Lord Chancellor on Monday night, in reply to Lord Herschell, said that the Secretary of State was about to proceed immediately with the appointment of a departmental committee to inquire into the best mode of dealing with habitual drunkards. The subject is one of immense importance, and its importance is only equalled by its difficulty. The present legislation inspires no respect, and is practically ineffective. It requires the consent of the drunkard to his compulsory detention in a retreat—a consent which is not likely to be forthcoming in the most fit cases. We do not advocate legislation that would favour the premature interference of law and its representatives with drunkards. It is always right to leave the natural friends and guardians of an habitual drunkard to exhaust their endeavours to save him before invoking any such interference. But there are thousands of cases in which power of interference should be given. In some instances the friends of such patients are driven to foreign lands where the law is more effective.

BURIAL REFORM AND PATENT COFFINS.

WE have been favoured with a view of a specimen of the new coffin patented by the Patent Enclosed Sanitary Coffin Company, of 40, Great Tower-street, E.C. It certainly possesses some advantages, being of oblong form, with square-shaped ends and sides, thus differing from the ordinary shape of coffins in common use, which is supposed to be repulsive to many persons. To these the new shape will commend itself, though we fear that to many others the new shape will be equally, if not more, repulsive. Inside the coffin are four pieces of wood fitted, so as to enclose a space, of the usual coffin shape, to receive the body, leaving at the head and feet four spaces for disinfectants or flowers. The bottom is covered with laths, leaving interstices for charcoal or other disinfectant, and it is claimed for these coffins that they supply all the purposes of burial reform at a greatly decreased cost. It is ungracious to criticise well-meaning reforms, but truth compels us to say that this, like other coffins, has the demerit of dealing only, so far as the sanitary aspect is concerned, with the question of disinfectants. If disinfectants are required at all—and they will be very frequently required if burial be deferred, as it generally is, till the third, fourth, or even fifth day after death—charcoal must be employed abundantly both above and beneath. There must be a substantial bed of the disinfectant below as well as a complete layer of it all over the upper surface of the body, or the object for which the charcoal or other disinfectant is used will not be gained. Medical practitioners will remember cases even in this country where it has been advisable to place the body in the coffin within a very few hours after death, and its closure within twenty-four hours or even earlier has been imperative. It is obvious that in such cases only a most liberal amount of disinfectant will have any effect. This new coffin is one of several which have been proposed. Mr. Seymour Haden proposed wicker coffins, which, however, have not found much favour. The earth-to-earth coffins of the London Necropolis have much to recommend them, especially if, when the patent has expired, their cost should be less. It is very satisfactory to see that so much is being done with reference to this matter of the coffin, which is, indeed, now the real feature of burial reform. We may remind all who labour in this cause that even all through the long period which elapsed while bodies were buried under churches, in vaults, catacombs, bricked graves, &c., burial reform was quietly practised in many an English village. There the burials were few, numbering twenty or less each year, the undertaker was the village joiner, the coffin a few boards nailed together, and the grave a hole dug in the churchyard. The results have been that though these ancient burial places have been used for centuries, there is still unbroken ground left, while the ground already used will continue to receive with all safety fresh tenants. What is required now is to make our cemeteries as similar as is possible to our old churchyards. Mr. Seymour Haden has shown that wood is undesirable as a material for coffins, being not sufficiently perishable in our English soils. He has been amply confirmed by other observers, and, as has been frequently pointed out, the burial service makes no mention of a coffin, but uses the word "corpse" or "body." Instead of the twenty bodies buried in the village churchyard we have to find burial space for, it may be, seven thousand bodies in a cemetery. Hence the importance of the most perishable coffin and the most suitable soil. For our own part, we should not object to see the sailor's "hammock" brought into use on shore, seeing what a neat and perfectly satisfactory coffin it makes at sea. Till that is done we must confess to a preference for that form of coffin which is most perishable—i.e., the coffins of compressed pulp as used in the Necropolis of Woking.

MUSCULAR DYSTROPHY.

TO the opening numbers of the new *Deutsche Zeitschrift für Nervenheilkunde* Erb contributes the most exhaustive monograph that has yet appeared upon this subject.[1] The clinical types of dystrophies generally recognised are, first, the "juvenile" form of Erb, beginning in youth, occurring in families, affecting primarily the muscles of the shoulder and upper arm, and often associated with true or false hypertrophy; secondly, the ordinary pseudo-hypertrophy; thirdly, the "infantile" facio-scapulo-humeral type of Duchenne, recently described by Landouzy and Dejérine; and, lastly, the "hereditary" form of Leyden, beginning usually in the legs. Erb has collected nearly ninety cases, and a number of necropsies and reports of examination of excised muscles. He maintains the essential unity of these four forms. In the juvenile and infantile forms there is often pseudo-hypertrophy; in pseudo-hypertrophy there is often atrophy of the shoulder muscles; in both forms the face may be subsequently involved. All forms may be hereditary, and in the hereditary form the shoulder muscles may be involved. All forms agree in the characteristic attitude of the patient, the affection of certain muscles, the occurrence of hypertrophy and pseudo-hypertrophy, the absence of fibrillary twitchings, and the simple quantitative diminution of electrical irritability. One or two cases are reported in which there was reaction of degeneration, but Erb himself has never seen it. Furthermore, transition forms are not uncommon; in the juvenile form the face may be subsequently involved, as it may in pseudo-hypertrophy; the

[1] Abstract in the Boston Medical and Surgical Journal, Jan. 28th, 1892

infantile form may show "juvenile" localisation or pseudo-hypertrophy; pseudo-hypertrophy may have later a juvenile localisation, and all may be hereditary. Finally, forms may occur which cannot easily be assigned to any one of these four types. Another argument in favour of unity is that in one and the same family several of these types may be found. From the harmony in all the essential clinical features and from the occurrence of transition forms in the same family, Erb concludes that clinically these four forms are essentially one. On the pathological side Erb has collected the records of eighteen necropsies and twenty-three examinations of excised muscles. He finds the following characteristic changes: Hypertrophy of the muscular fibre, present in post-mortem examinations as well as in the excised portions, and therefore not due, as Oppenheim and Siemerling have claimed, to the results of excision; atrophy of fibres; alteration in the shape of the fibre, which loses its angles and becomes rounded; an increase of nuclei, with the presence of nuclei in the centre of fibres; a fissuring and division of the fibres and the formation of vacuoles. These changes occur in various combinations, but it is impossible to make any anatomical distinction between the four forms. In all, for instance, hypertrophy and fissuring may be rare or frequent, and the fibres may be equal or may vary greatly in size. The interstitial tissue is usually increased in amount, and a deposit of fat is common in it. In general, this proliferation of connective tissue and fatty infiltration are pronounced in pseudo-hypertrophy; but it is also observed in the other forms, and some of the muscles in pseudo-hypertrophy show it only in a slight degree. The complete necropsies show, as a rule, that the nervous system is intact. The muscular changes are the same in these cases as are found in the excised muscles. Erb concludes, therefore, that we do not find in the different forms of muscular dystrophy any essential and comprehensive distinction in the histological changes in the muscles, and that these types form one morbid entity—dystrophia muscularis progressiva.

ROYAL COMMISSION ON VACCINATION.

WE understand that the Royal Commission on Vaccination have been considering the terms of an *ad interim* report, which has been drawn up by Lord Herschell. The statements that have been made public as to the supposed tenour of this report are, we are informed, unauthorised and inaccurate.

CRUEL USAGE OF A BRITISH PRACTITIONER IN CHINA.

IT is not often that we have to notice an instance of such wilful, unprovoked, and methodical barbarity as that recorded in the following narrative, which is taken from the letter of an agent of the British and Foreign Bible Society. Dr. Greig, a medical man connected with the Society's mission in North China, while sleeping at an inn was suddenly seized by soldiers, insulted, kicked, and severely beaten. His hands were then tied together behind his back, and he was slung up by them to a beam till he fainted. He was afterwards imprisoned for four days in a miserable hovel, gazed at and abused by the rabble of the place. When at last his release was accomplished at the request of the British Consul he was reduced to a mere wreck of his former self. The alleged reason for this extraordinary treatment is that Dr. Greig was accused, on the evidence of several children, of kidnapping these latter. The charge, which the mere presence of the children must have sufficed to disprove, was of course a baseless one. It is not difficult, indeed, to see that it was a piece of wilful mendacity, probably concocted by some enemy, on purpose to injure an innocent man. Dr. Greig's hard experience does not encourage a belief in Chinese justice. Here we have a man who, as is clearly shown in the letter quoted, has well earned the gratitude and esteem of the Chinese population by his professional skill and kindness. By way of return he is shamefully maltreated on a false accusation of the most trumpery character. It is worth noting also that his chief tormentors were soldiers, and that they are said to have acted under instructions from the local military commandant. These facts, if capable, as we cannot doubt that they are, of legal proof, must reduce considerably the area of responsibility for the abominable treatment he experienced. The onus of blame rests upon official shoulders and the case is evidently one where all possible satisfaction should be exacted by our consular representative.

POLLUTION OF THE THAMES.

IN the annual report of the medical officer of health to the Local Government Board, which has been issued within the last few days, a most important article by Dr. Blaxall on the Sanitary Condition and Administration of the Rural Sanitary District of Staines occupies an important place. In 1887 we published a report by our Sanitary Commissioners on the Thames as a Water-supply for London, and in it we commented somewhat strongly on the sanitary condition of Staines and on the probability that its sewage contaminated the Thames at no great distance above the intake of the water companies near Hampton. Dr. Blaxall has given a much more alarming description of the danger to London from this cause than we ventured upon. Some of our own strong suspicions were suppressed, as we had no wish that injury should be unfairly inflicted upon vested interests. But Dr. Blaxall, armed with the powers of a Government inspector, gives an account of the way in which the cesspools of Staines drain into the river, the sewage sometimes passing down through the foul and porous subsoil as far as Sunbury before it is discharged, which will give unpleasant thoughts to those who still maintain that the Thames between Hampton and Sunbury affords a proper water-supply to London. The subject is too large to be discussed in detail here, but we commend Dr. Blaxall's report earnestly to our readers.

TREPHINING FOR RELIEF OF INTRACRANIAL PRESSURE.

THAT in cases in which an intracranial growth is present much relief is at times given by trephining is now well known, but the number of cases as yet reported is too small to allow of its being recognised as a certain, and at the same time a safe, means of treatment. Such treatment, of course, is only applicable to cases in which either the new growth is too large for removal, or its locality cannot be definitely diagnosed. As regards growths in the cerebellum, clinical observation is still at fault. While in some cases it may enable us to say with a fair amount of definiteness that there is a cerebellar tumour, in very few can it be predicted on which side of the cerebellum the growth lies. Every recorded case, therefore, is of extreme importance, as enabling a judgment to be formed of the difficulties and drawbacks which follow such an operation, as well as of the relief experienced and the nature of the cases in which the operation may be expected to have a favourable result. In the last number of the *Journal of Nervous and Mental Diseases* Dr. Knapp of Boston reports a case in which diagnosis was very difficult, and in which an operation was undertaken chiefly for the purpose of relieving symptoms resulting from increased intracranial pressure. The patient had been fairly well till October, 1889. He then began to suffer from occasional severe headaches, and at times dimness of sight. He was seen at this

time to have double optic neuritis. He lost the sense of smell early in the illness, and became totally blind in August, 1890; but on one occasion, after a severe attack of vomiting, he is said to have had a temporary return of vision. He was seen by Dr. Knapp in October, 1890, and then he had for three weeks complained of failure of hearing in the left ear, had experienced some difficulty in swallowing, and there was a profuse flow of saliva. He had also had on two occasions attacks in which he cried out, fell down, and frothed at the mouth. He likewise had sensations of numbness of the face and hands, but tactile sensibility was fairly good. He suffered from headaches, and was restless and slept badly. There was pain on pressure on a spot in the right temple. Sometimes neither knee-jerk could be obtained; at other times only the right was present. Trephining was advised, and was performed on Jan. 18th, 1891. Bone was removed in the right parietal region, just behind the anterior end of the fissure of Sylvius. There was bulging at the opening; but no tumour was felt or seen even after the opening had been considerably enlarged. After the operation he was more comfortable, although not quite free from headache, and at his own request he returned home on Jan. 28th. He returned a few days later, apparently suffering from left hemiplegia and hemianæsthesia, and he remained in a very somnolent condition for some days. There was oozing of blood from the posterior end of the incision, which had apparently broken down, and later on some brain substance came away. On Feb. 14th he became almost comatose, but a profuse watery discharge from the wound set in, and he began to improve. There was no change in the condition of the hemiplegia, or any sign of returning vision, but his mind was much clearer. The hernia, however, continued to slough, and on March 7th he suddenly became worse, and died on the 9th. At the necropsy there were found signs of meningitis around the trephine opening, and a large tubercular tumour in the left lateral lobe of the cerebellum. Of course, in such a case operation was a forlorn hope, for there was little probability that even vision could have been to any extent restored, and it was also a misfortune that breaking down of the scar should have occurred with the consequent hernia cerebri; but the temporary relief from pain, although brief, is significant.

THE PORT OF LONDON.

IN his report to the Port Sanitary Committee of London for the half-year ending December last, Dr. Collingridge lays stress on the need for some amendment of the regulations which allow so small an amount as seventy-two cubic feet per seaman in the mercantile marine. In fact, the whole subject of the existing regulations is carefully discussed so as to indicate the directions in which health requirements demand some modification in the arrangements in force, and the report is especially worthy of study by all who are concerned in port sanitary administration. In considering the various infectious diseases which have had to be dealt with by isolation and disinfection, Dr. Collingridge points out the difficulties in which he is placed with regard to the isolation of small-pox. Admirable as is the port hospital in most respects, the site is, we fear, much too restricted to admit of anything like a small-pox pavilion, except it be constructed so as to consume all out-going air; otherwise patients in other pavilions can hardly fail to run risks to which they should not properly be subjected. Evidently Dr. Collingridge feels this, for he points to the need of either increase of site or selection of a separate one by referring to the vacant land in the possession of the Corporation. The question of the disposal of the metropolitan sewage is rather left in abeyance because the scheme in operation is not completed; but it is alleged that at the present moment, and pending such completion, the state of affairs is unsatisfactory. No less than 7733 vessels were inspected in the half-year, the result being to confer great benefit on seafaring men and a considerable measure of safety from infection to London and the kingdom generally.

IS FARNHAM HEALTHY?

WE should have thought but little of the details of Mr. Sloman's report on the health of Farnham during the past year had it not been for the significant attitude of some members of the local board towards it. Like many other towns, Farnham had an increase in mortality during the influenza epidemic, but there was no special increase of the zymotic rate. The water-supply is not very satisfactory; but amendments are in progress, and some cases of diphtheria were shown to have occurred in connexion with ill-ventilated soil-pipes and other sanitary defects. But it was pleaded at a recent meeting that if the annual report was read in public it must "blacken" the credit of the place, and it is hardly likely that such statements would be made unless the authority knew there were defective conditions the exposure of which they feared. By their attitude they have succeeded in drawing attention to the place, and many will wonder what it is that Farnham is so anxious to hide from the knowledge of the public.

ETIOLOGY OF ACUTE PLEURISY.

IN a paper on the above subject in the *Boston Medical and Surgical Journal* of Feb. 25th, 1892, Dr. G. G. Sears draws attention to the frequency with which phthisis follows an attack of acute pleurisy. He has collected the reports of 451 cases from various observers, of which 176, or 39 per cent., developed phthisis or other well-marked tubercular affection. Constan and Dubrulle, from their army experience, say that soldiers who have suffered from pleurisy are no longer fit for military duty, and that a majority die later of phthisis. An exactly opposite opinion is held by Blachez, who mentions an epidemic of pleurisy which occurred several years ago without the subsequent development of pulmonary disease in a single case. Westbrook, Vickery, and others have reported cases which were followed by phthisis; and from a review of the recent literature there seems to be an increasing tendency to ascribe to the tubercle bacillus a more and more important *rôle* in the causation of pleural effusions; but as the pendulum of medical opinion is proverbial for the length of its vibrations, it is fair to ask if in the present instance it is not tending to swing too far in this direction. The frequent occurrence of pleurisy as a complication of pneumonia, rheumatism, measles, and other infectious diseases where no doubt exists that it is the same in origin, suggests the question if so-called idiopathic pleurisy may not at times be due to the same causes, which for some reason affect only the pleura—a question which the discovery of the pneumococcus in pleural effusions not secondary to pneumonia goes far towards answering, while the reported curative effect of salicylic acid in many cases suggests its being at times a local manifestation of rheumatism. From any series of cases similar to that given above a certain number must be deducted for those who have developed phthisis in the natural order of events without the incidence of a previous pleurisy, while the part which a latent tuberculosis of the bronchial lymph glands may take in the subsequent onset of a more general process must also be considered. In concluding his paper Dr. Sears says that we may consider a very fair proportion of cases of acute apparently idiopathic pleurisy with effusion are followed by phthisis. In some of

such cases the pleurisy is doubtless of tubercular origin, and is its earliest expression, just as hæmorrhage may be the first symptom and not the occasion of pulmonary tuberculosis, while of the cases which remain permanently well, in view of the spontaneous recovery of tubercle in other situations, it is fair to assume that a certain number are due to the same cause, the process remaining local. In others, though itself benign, pleurisy may be the cause of grave disease, by dislodging the bacilli from their comparatively harmless position in the bronchial glands, or favouring the development of phthisis by crippling the movements of the lung.

THE COST OF POSTAGE OF NOTIFICATIONS.

ON the question of the right of the notifier to send his notifications through the post *unpaid*, or to receive from the sanitary authority the cost of postage, we have received the following opinion, which we are given to understand cannot be disputed. Notifications are not very numerous or bulky, in spite of the loud complaints of a few boards that are surprised at having to pay a medical man for troublesome and responsible duties. They could often be sent by hand:—

"It is not the fact that 'medical men notifying cases are entitled to the full fee without deduction for postage,' for a medical practitioner is not entitled to send his notification by post unpaid, and if he does so the authority is entitled to deduct the surcharge made by the Post Office. This is made quite clear by the Interpretation Act, 1889, Section 26, which provides that when an Act authorises a document to be sent by post, it must be 'properly addressed, *prepaid* and posted.' The Board have frequently pointed out that the Notification Act, in allowing the notification to be sent by post, implies the necessity for prepayment of the postage. The case of Chisholm *v.* Radcliffe Local Board did not raise this question, because the Local Board, despite the advice of the Local Government Board, refused to take in the unpaid notifications, and this they had no right to do. But they might have paid the postage and deducted the money from the fee paid."

THE USE OF ALUMINIUM IN THE MANUFACTURE OF FOOD-CONTAINING VESSELS.

Now that aluminium is being obtained more cheaply and abundantly from the earths that contain it—clay and cryolite—we may soon expect to meet with a great variety of useful articles made exclusively of this beautiful metal. Aluminium is nearly a third the weight of iron, is both ductile and malleable, and its natural lustre is but little affected by either damp or dry air. The statements, however, that it is not acted upon by even weak acids must, according to recent observations, be received with some amount of reserve. The metal has always been looked upon as possessing properties which would be likely to render it eminently serviceable in the arts and manufactures. Surgical instruments and culinary vessels have already been made of it, and on account of its extreme lightness and portability it has recently been proposed to use this material in the German army for soldiers' mess-tins and water-bottles. In view of this proposal being very generally carried out, several chemists have been led to investigate the action of various liquids and food preparations upon the metal. Some months ago Messrs. Lübbert and Roscher, in a paper on the behaviour of aluminium toward a number of liquids with which that metal might come into contact when made into canteens, cooking vessels, surgical instruments, &c., arrived at conclusions which were considered to be detrimental to the application of aluminium to any use in which it may come into contact with liquids intended to pass into the human body. Professor Lunge, however, was not satisfied with the methods pursued by these investigators, and he accordingly instituted a number of experiments on his own account. The conclusions he came to were as follows: The action of coffee, tea, and beer is *nil* or practically so; *that of brandy is also extremely slight;* the action of acids and acid liquids (wine, sour milk, fruit juices) is more pronounced, but even in this case, he says, far too slight to cause any alarm whatever. Taking the worst case, that of acetic acid, he found a maximum attack of less than five milligrammes per 100 square centimetres in six days, and a canteen holding a litre, and having an inner surface of about 600 square centimetres and an aluminium weight of about 200 grammes, would, he says, in the very worst case lose five milligrammes in a day, or one gramme in 200 days, even if it were always full. At this rate, only in fifty-five years would it be reduced to half its weight. This, he holds, is certainly too trifling an action to be considered; there is not the slightest danger of any injurious action upon the human body by such traces of aluminium compounds, and they are not poisonous, he affirms, in the ordinary sense as compared with compounds of arsenic, mercury, lead, and copper, and, before they can act injuriously, quantities a hundred times larger than those he found to be regularly entering into the human stomach would have to be ingested. Finally, he adds, aluminium may without any fear be employed for canteens or any other vessels used to hold articles of food, at least at ordinary temperatures. These conclusions of Professor Lunge are, however, not by any means confirmed by a report recently to hand through Reuter. It appears that a soldier belonging to an infantry regiment stationed near Nuremburg had his bottle partly filled with cognac. After several sips he was taken ill and vomited. On hearing the particulars the medical attendant decided to send the bottle and its contents to an analyst, who discovered in the bottle some brownish-black spots, round in shape, which under analysis were found to contain large proportions of aluminium and iron. The cognac had become muddy, and the analyst declared that it had caused strong corrosion of the metal. It is quite possible that in this instance the evidently strong action of the cognac on the metal was caused by the presence of the iron, as it is well known that, although the pure metal is frequently unacted upon, yet when it is in contact with another metal galvanic action is oftentimes set up, and consequently corrosion of the metal takes place. The subject is obviously of sufficient importance to demand at once further careful investigation. We should not be at all surprised, however, to learn that aluminium is found to be easily acted upon, seeing how readily it dissolves, with production of hydrogen, both in alkalies and acids. Aluminium is, in fact, one of the three metals of common occurrence which decompose water at a red heat.

OPERATION FOR SPASMODIC TORTICOLLIS.

SOME advance appears to have been made in the surgical treatment of this most distressing affection; but until its pathology is more clearly ascertained, we cannot hope that the results of treatment will be anything like uniformly successful. One point that lies on the surface is the variations met with in different cases. In one patient the sterno-mastoid muscle may be the only one affected, in another it will not be implicated at all, and similar variations are met with in the case of the other muscles which rotate the head. It is, therefore, difficult in some cases to determine exactly what muscles are implicated and to what nerves treatment must be directed. Difficulty also arises from the depth at which some of the muscles and the nerves supplying them are placed, so that any operation on these nerves involves a very deep dissection. Nerve-stretching, even when very thoroughly carried out, has not been attended with success, and simple division of the nerves has not given better results. Surgeons are now dealing with these cases by the free excision of the nerves supplying the affected muscles, removing the nerves as near to their

central ends as possible. Last year M. Petit recorded twenty-six cases in which he had excised the spinal accessory nerve. Of these, in thirteen a successful result was obtained, seven were much improved, two were slightly better, and three enjoyed temporary benefit only, while one patient died from phlegmonous erysipelas. The operation in question is a comparatively simple measure. The more difficult cases are those in which the posterior muscles are involved. Early last year Dr. W. W. Keen recorded a case in which he had excised muscular branches of the posterior divisions of the first, second, and third cervical nerves with marked benefit, but not complete success. Soon after Mr. Noble Smith recorded a case in which he had performed the same operation on the second, third, and fourth cervical nerves. Dr. Powers has now related a third instance of this operation, in which he exactly followed Dr. Keen's procedure. The last two patients were greatly benefited by the operation. Dr. Keen makes a transverse incision carried down through the complexus. Mr. Smith employed a vertical incision. The results thus obtained are well worthy of the attention of surgeons, although the treatment is only empirical.

HEALTH OFFICER FOR SUFFOLK.

THE Suffolk County Council are considering the expediency of appointing a county health officer, the question having arisen on the occasion of the receipt of the annual reports of the district medical officers of health. These reports can only be properly examined and dealt with by an expert in public health, and it is noteworthy that the most useful action taken by county councils, by way of bringing local default to the fore and of securing amendment in sanitary administration, has been effected by councils which have elected their own health officers instead of paying a fee to a mere examiner of reports, whose duties end when he has sent in his summary, together with such advice as he may see fit to tender.

CHEAPER TRAVELLING TO THE CONTINENT.

PATIENTS wintering on the Riviera will realise considerable economy in their travelling expenses if they defer their return till after April 1st. The French railway companies pay a tax of 12½ per cent. to the Government on passenger and parcel traffic, on dogs, &c. But, after the war, on Sept. 17th, 1871, a war tax of 10 per cent. extra was imposed. Thus, for nearly twenty-one years the railway companies have had to give 22½ per cent. of their receipts to the Government. The time has at last arrived, however, when the Government can afford to dispense with the war tax; but, before making this remission of taxation, the railway companies were called upon to make similar concessions. It was pointed out that national welfare depended to a great extent on facilities for travelling, and both the companies and the Government adopted this broad view of the subject. Consequently, on and after April 1st a reduction will be made on all French railways which will be equal to 10 per cent. on all first-class single tickets; of 18 per cent. on all second-class single tickets, and of 27 per cent. on all third-class single tickets. It is, however, on return tickets that the first- and second-class travellers will derive the greatest benefits, for these are to be reduced 25 per cent. The third-class return tickets will only be lowered 20 per cent.; but it must be borne in mind that return tickets were already sold at a reduction. As a practical illustration of this new tariff, the first-class return ticket from London to Nice, available for forty-five days, will cost £10 8*s.* 6*d.*, instead of, as at present, £13. Again, the first-class return ticket from Victoria to Paris and back will be £4 6*s.* 9*d.*, instead of, as at present, £4 18*s.* 3*d*; and the second-class return will be £3 6*s.* 3*d.*, instead of £3 18*s.* 3*d.* The greatest advantage will be reserved for the third-class travellers. The cheap and slow night service available for fourteen days only is to be abolished, and in its stead a great reduction will be effected in the charge for the third-class which has quite recently been added to the night mail. The third-class night mail return ticket from Victoria to Paris, which now costs £2 13*s.* 2*d.*, will be issued for £2. The Chatham and Dover line also proposed to give £2 return third-class tickets by the morning mail, which starts at 8.30 A.M., and reaches Paris at 5 50 P.M., but the proposition met with some opposition. The directors were, however, able to secure the issuing of such tickets at least during the tourist season; so that in the summer it will be possible to go, third-class return, to Paris for one month by the shortest sea route and by day for £2. We need scarcely insist upon the advantage of these reductions. If they only affected pleasure-seekers we should not be so much concerned, but we are daily learning to recognise how great are the benefits to health to be derived from a change of climate, scenery, and surrounding circumstances. The cost of travelling is, however, a great obstacle, particularly as invalids ought not to travel alone. Where, as is often the case, a family party determine to winter in the South because one among them is in a state of delicate health, the expense of the journey thus multiplied by the number of the party becomes a very serious consideration. On the other hand, if the patient goes alone, the solitude, the sense of being exiled from friends and home, may do more injury than the change of climate does good. There is no doubt, therefore, that lessening the cost of travelling will be an indirect adjuvant in the climatic treatment of disease.

THE DRAINAGE OF WOKING.

THE prospective drainage of the district about Woking railway station has now entered on a second stage. One site for the disposal of the sewage was refused by the Local Government Board last year, great local opposition having been raised to it. Now another site has been selected, and application for a formal inquiry as to its acquisition will probably be made. We move but slowly in such matters, and local opponents often find but little difficulty in causing needless delays. Any such delays should, if possible, be avoided in this case, for the large population now pouring all its liquid filth into cesspools in close proximity to dwellings in this locality can hardly fail to suffer if the present state of affairs is continued much longer.

UNQUALIFIED PRACTICE, "COVERING," AND "FALSE CERTIFICATE" OF DEATH.

AN inquest was held on the 22nd inst., at the Coroner's Court, chapel of ease grounds, by Dr. Danford Thomas, on the body of Susannah Elizabeth Waller, aged seven months. The inquiry was held in consequence of the certificate of death being signed, and apparently filled up, by a qualified medical man, he not having seen the case either before or after the death had taken place. It appeared from the evidence of the parents, living in Palmerston-road, Holloway, both respectable people, to whom no blame could possibly be attached, that, the child being taken ill about three weeks since, the father went off in search of a medical man, and calling at a "dispensary" near to his house in Poole's Park, N., went in and asked to see the doctor. A gentleman appeared, accepted the message, and called later, seeing the child and prescribing for her, and gave medical directions as to treatment. The parents were under the impression they were dealing with a properly qualified medical man, and permitted the attendance to continue until the child's death on the 18th inst. On asking for a certificate the "doctor"

stated that he would send one in, and did so, the certificate being signed by Mr. Dyte. As the parents did not know the name of the person who had attended during the illness all would probably have gone off well had it not been for a neighbour, who, believing that the child had been treated by an unqualified practitioner, requested her own medical man to call at the house. On arriving there he found that the child was dead. Certain inquiries were then instituted, which resulted in the district registrar refusing the certificate which had been brought to him, and referring the matter to the coroner. Mr. Smyth, the person who took charge of the child and attended it medically, was called into court, and gave evidence that Mr. Dyte had never seen the child alive, that the certificate was signed by him (Mr. Dyte), and that he (Mr. Smyth) had been his assistant for fifteen years, and that he was unqualified. The parents also identified Mr. Smyth as the man to whom they, thinking he was a "real doctor," had entrusted the case, and swore that they had never seen or heard of Mr. Dyte, and that no other person than Mr. Smyth had attended the case. There was no dispute as to the facts adduced above. Mr. Dyte was not present, although the coroner pointed out that he had received notice that an inquiry would be held. After the coroner had pointed out the grave nature of the case, the jury returned a verdict of "Death from natural causes," and added a rider "that the attention of the Registrar-General be called to the case, as a false certificate had without doubt been issued."

EMIGRATION OF LEUCOCYTES FROM THE TONSILS.

DR. POLYAK finds that most of the leucocytes which in a normal condition of the tonsil migrate through its epithelium into the buccal cavity are lymphatic corpuscles (lymphocytes)—that is to say, young elements generated by karyokinesis of the cells of the adenoid tissue. There are, however, in addition, a considerable number of leucocytes with polymorphic nuclei which migrate from the superficial capillaries and capillary veins. The emigration of these multi-nuclear leucocytes is also observed in places where there is fibrous connective tissue beneath the epithelium. The emigration of large numbers of lymphocytes is accompanied by well-marked destruction of epithelium close to the free surface, but the emigration of the multi-nuclear leucocytes only appears to give rise to increased exfoliation of the superficial epithelial cells. When acute inflammation of the mucous membrane was induced by irritation with chemicals, the emigration through the many layers of flattened epithelium was mainly confined to multi-nuclear leucocytes.

LEEDS INFIRMARY EXTENSION.

THE new buildings added to the Leeds Infirmary, which have been constructed at an outlay of £35,000, are now completed. They comprise four separate blocks—namely, (1) ward pavilion, (2) out-patients' department, (3) pathological department, and (4) isolation wards. These form a very handsome and much needed addition to the infirmary, which already held a high place amongst buildings of its class. We note, however, that some discussion has taken place in the local press regarding the allocation of the new wards in the first-named block. These wards, of which there are two on each of the three floors, one containing ten beds and the other sixteen beds, are divided by the staircase and corridor, in which is placed a small special ward and the nurse's room. The main wards are thus assigned: on the ground floor they are both given up to ophthalmic and aural cases; on the first floor, the smaller ward is devoted to the same class, and the larger to the gynæcological cases; whilst on the third floor, where the arched roof adds some feet to the height of each ward, the larger is devoted to diseases of children (medical), and the smaller to cases of burns, gangrene, &c., which it is thus intended to draft off from the general surgical ward. It is this latter plan to which objection has been taken, and with some force, for, although the ward in question is on the top floor, the class of cases intended to be lodged in it are peculiarly offensive, and the near proximity of the gynæcological ward, where operation cases of a grave nature are likely to be found, makes the alteration one which cannot be commended. It seems a pity that, with the resources at the command of the authorities, some more fitting plan for the isolation of these cases, which ought to be separated from general surgical cases, could not have been devised than one which may entail risk to the safety of other patients contained in the same block.

SMALL-POX AND FOOTBALL.

A GOOD deal of ill-feeling has been created in the urban districts round about Dewsbury, and within the Dewsbury Union, because certain football clubs have refused to go to such places as Batley, Heckmondwike, and Dewsbury to play matches. We have no hesitation in saying that the refusals have been most proper; and we would further add that a certificate, published by the Batley inspector of nuisances, to the effect that Batley may be visited "without any danger," is perfectly worthless in the face of the well-known story of Batley's long-maintained prevalence of small-pox. Football players have generally reached an age when the protection of primary infantile vaccination is wearing off, and very recent revaccination is not the best preliminary to the physical struggles which are involved in a football contest. Persons desirous of visiting any of these Dewsbury towns, which have been, and still are, infected with small-pox, had better avoid all large assemblies there until the medical officers of health have certified that the risk is past, and this is hardly likely to be so until we have something better to record than a persistent attitude of opposition to vaccination (a prophylactic which could bring the epidemic to a speedy end), a hurried concentration of small-pox patients in local hospitals, and the existence of some eighty fresh cases this year in a single one of these towns, the heaviest incidence of all being during the last fortnight of February and the beginning of March.

INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

THE members of the recent Congress are entitled to receive, free of charge, the whole of the Transactions. The whole of the thirteen volumes cannot be ready for some months. The records of certain sections are, however, now nearly ready, and can be obtained by members, if desired, as soon as issued by forwarding to the publishers, Messrs. Eyre and Spottiswoode, the sum of 4*d.* per part, or 4*s.* for the whole series, to cover the necessary expense of wrapping and postage. A further sum of 9*d.* must be remitted if the member wishes to receive the Transactions bound in cloth. To non-members a single copy will be sent on payment of 2*s.* 6*d.* (or 2*s.* 10*d.* post free), or the whole series of thirteen volumes will be forwarded for £1 16*s.* 6*d.*, post free. The copies can also be obtained bound in cloth at a charge of 4*s.*, post free.

THE HEALTH OFFICER FOR SOUTHWARK.

WE have noticed with considerable regret the attitude which has been adopted by the Vestry of St. George-the-Martyr, Southwark, towards Dr. Waterworth, who for many years has acted as medical officer of health for the district. He voluntarily resigned his post a short time ago

in order to enable the vestry to re-elect him, so that the new appointment might carry with it repayment of a moiety of the salary by the County Council. Some irregularity having occurred in the terms of the new appointment it was not sanctioned, and now some members of the vestry, availing themselves of the fact that there is technically a vacancy, have induced their colleagues to advertise for an officer to give his whole time to the duties for £500 a year. We do not discuss the sanitary wants of Southwark in connexion with such whole-time service, but it will be well for intending candidates to ascertain the details which have led up to this extraordinary behaviour towards Dr. Waterworth—behaviour which, at the vestry meeting itself, was described by one of its members as "disgraceful."

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. B. Küssner, Extraordinary Professor of Medicine in the University of Halle.—Dr. Karavaeff, Emeritus Professor of Surgery in the University of Kieff.

THE Ingleby Lectures will be delivered by Dr. Arthur Foxwell, in the Medicine Theatre of Queen's College, Birmingham, on March 29th and April 5th and 12th, at 4 P.M. The subject will be "The Condition and Treatment of the Vascular System in Chlorosis and other Debilitated States."

ACCORDING to the special correspondent of *The Times*, upwards of 200 ocean vessels have been infected with yellow fever, including those in the ports of Brazil, whose crews are either dead or have fled.

THE Local Government Board have finally agreed to the pension of £210 to Dr. Collie, who recently resigned his appointment as medical superintendent of the Eastern Fever Hospital.

DR. THOMAS CLIFFORD ALLBUTT, F.R.S., Regius Professor of Physic in the University of Cambridge, has been elected to a Fellowship at Gonville and Caius College.

DR. ALFRED H. CARTER, F.R.C.P., has been elected to the chair of Therapeutics in Queen's College, Birmingham.

WELLINGTON COLLEGE SORE-THROAT.

BY J. G. BARFORD.

(*Continued from page 675.*)

TWO distinct forms of sore-throat occur among the residents at Wellington College. The one is a simple, non-infectious malady, such as may be seen elsewhere, and is apparently dependent on sudden changes of the weather or any other cause giving rise to a chill; the other is an infectious malady, analogous to, if not identical with, a form of sore-throat very prevalent in the past in ill-ventilated and over-crowded hospitals, now happily of rare occurrence, and best known as "hospital sore-throat." During the time I was dresser and house surgeon at St. Bartholomew's Hospital, now more than thirty years ago, I noticed that "hospital sore-throat" was a common precursor of erysipelas among the patients in the surgical wards. Subsequent experience in private practice, and the comparison of that experience with the special opportunities afforded by attendance for twenty-four years on the boys at Wellington College, led me to the conclusion that from some cause or other the throat affections at Wellington College often differed very materially from those I saw among my private patients elsewhere. As an example of what occurred at Wellington College I may relate the following interesting cases. In the year 1861 two boys were taken ill, with feverishness and sore-throat. This was in the second year of the existence of the College. They developed an ambiguous rash, now recognised as no uncommon accompaniment of both diphtheria and septicæmia. They were seen by four medical men, one of whom thought the affection might be suppressed scarlatina, another leaned to the view that it was more in the nature of diphtheria, but all agreed that it was very ambiguous and grave. I had seen nothing of the kind either at the Children's Hospital in Great Ormond-street, or at St. Bartholomew's Hospital, or at the Hôtel Dieu in Paris. These cases made me feel grossly ignorant of my profession, but I had some comfort in seeing that other men of large experience and high repute seemed to know no more about it than I did. The cases did well in the end, and we comforted ourselves with the feeling that "all's well that ends well." Seen by the light of subsequent illness at the College, I have no doubt that they were cases of pure septicæmia arising from some infective process in the locality, and connected in one way or another with the decomposing organic matter with which this district abounds. It could scarcely at that time have been sewage contamination, for the College had only recently been opened, and the district was previously uninhabited, being, as the article in *The Times* described it, "a bleak inhospitable moor." These were not isolated cases of curiosity. One morning I was breakfasting with the head master, the present Archbishop of Canterbury, as I commonly did in those days in order to talk over school affairs, for I was at that time very much in the head master's confidence, as indeed were all his subordinates; for just as in proportion we had confidence in him (and this was unbounded), so he trusted us. There was a common aim among us to make Wellington College the best and the healthiest public school in the world. Two hours after breakfast I received an urgent message to go and see Mrs. Benson. I found her with a patch of diphtheria on her throat and very indisposed. At the breakfast table she had appeared to me perfectly well, chatty and charming as usual. The district at that time was free from diphtheria. Then the question arose, Whence the source of this attack? Such cases reopen to some the two rival theories of "spontaneous generation and development from pre-existing germs." But other cases arose quite as remarkable, and as it will be interesting to link experience in the past head master's house with that in the present head master's house, this will settle the point that both past and present head masters knew of the occurrence of diphtheria at Wellington College, for both had had it in their own families; the one in quite the early days of the College, the other in the middle period of its existence. These facts, taken into consideration with the subsequent and recent outbreaks, may give some clue to the cause, at present in obscurity. I was asked by Mr. Wickham to go and see some members of his household. I found Mrs. Wickham, the housekeeper, and one of the maids with a diphtheritic sore-throats; the other members of the family were free from it. The architect and sanitary adviser of the College was sent for; he could find nothing wrong with the sanitation of the house. I could trace no introduction of the disease from without. I persisted that there was something wrong within the house, for two out of the three had not been outside within the usual period of incubation. I got each patient to relate to me everything they had done during the past week. I found that Mrs. Wickham and the maid were in the habit of going to the housekeeper's room, and this was the only place where the three affected persons could be said to have been exposed to a common cause. Mrs. Wickham sat in a chair in a corner of the room to receive pence, I think, from poor children for a little bank she kept going for them twice a week. The housekeeper sat there at other times; the maid was in the habit of going to the same corner. I advised Mr. Wickham to have that spot searched both within and without the walls. Here the mischief was found. A stack-pipe drain had become blocked, and the soil saturated with damp. Here, again, the question arises, Where had the germs been, and how did they get there?

It should not be supposed that the development of these throat affections and their complications, going on in one case to diphtheria and in another to erysipelas or pneumonia, or exhibiting true toxic symptoms, are confined to Wellington College delta, to the exclusion of other low-lying portions

of the neighbourhood. The low-lying districts of Camberley, of Frimley, and Blackwater, where the Staff and Royal Military Colleges are, have gained an unenviable notoriety by the repeated outbreaks of diphtheria, outbreaks so fatal as to call for public investigations. At the last annual inspection of the cadets by the Duke of Cambridge, his Royal Highness congratulated them on their appearance of healthiness and vigour, yet within a stone's throw of where his Royal Highness spoke there was diphtheria. Here, then, in the midst of general good health, diphtheria crops up as if of spontaneous origin, or from the sudden bursting into vigour of some phase of dormant germ life. But why thus so long dormant and then suddenly active? Bacteriologists fail to explain. Nor are these occurrences confined to the more populous districts, as the following cases will illustrate. A mother and her daughter spent a September afternoon picnicking in one of these marshy valleys. Next day both were indisposed, and the following evening had well-marked symptoms of severe diphtheria, which proved fatal in both cases in a few days. The amount of deposit of diphtheritic membrane on the throat was not in proportion to the severity of the constitutional symptoms, and death took place from toxæmia. The house they occupied was an isolated one free from insanitation, placed on the brow of a hill, and raised some hundred feet above the marsh valley. They did not doubt themselves, nor do I doubt, that they caught the disease on the afternoon they spent picnicking in the marsh. But diphtheria is not the only disease these marsh lands are capable of generating.

Septicæmia, like diphtheria, has also prevailed at Wellington College, and not there alone in the district, as the following cases will illustrate. A few weeks anterior to the two cases of diphtheria above related, a young lady home from school spent an afternoon playing in the valley visited by these diphtheritic patients. The following day she was generally indisposed, and when I saw her I found her with some slight tenderness of the knee-joints; a tender line could be found running up on the inside of each thigh, and there was some tenderness and distension of the abdomen. My experience among the boys of Wellington College, where I had seen septicæmia over and over again, had taught me the grave significance of these symptoms when associated with such a history. Within forty-eight hours all the graver indications of septic infection displayed themselves, giving rise to peritonitis, pneumonia, pleurisy, pericarditis, endocarditis, and, lastly, cerebral effusion. The child hovered for a fortnight between life and death, for as the inflammatory action in one organ yielded a little to treatment it lit up in another. The parents, who are more than ordinarily intelligent people, lost all hope under the exhibition of such desperate symptoms, but I had seen boys recover at Wellington College, and I was hopeful that this girl might, which she ultimately did.

As my personal experience, extending over a period of thirty years in private practice, had taught me that these grave cases of septicæmia were mainly confined to the low-lying marsh valleys of the Blackwater river, which divides Berkshire from Hampshire, or the marsh valleys adjacent to it, one of which forms the delta of Wellington College, I have during that period been able to come to no other conclusion than that the abundance of putrescent organic matter with which these valleys abound plays an important part in the production of both diphtheria and septicæmia. Just as these sand and marsh districts are prolific in most forms of fungus life in autumn, it is not unreasonable to infer that they would be equally favourable to the germination of pathogenic micro-organisms which bacteriologists believe are closely allied to fungi in their origin, nature, and method of propagation. As far as my observation goes, sewage contamination of soil has little or nothing to do with their production. Certainly diphtheria and septicæmia do occur where no indication whatever exists of the influence of sewage contamination, as the following case will illustrate. A young man was riding his bicycle through the valley of the Blackwater in the evening, when he met with an accident, he supposed, and was thrown, and lay by the roadside for some hours without assistance. There was no residence near, and he, as far as could be told, had had either concussion, or had fainted. I think the latter. There were no external marks of injury, but the following day he had pain in his joints, followed by sickness and the significant tenderness of the knee-joints and the tenderness up the inside of the thighs mentioned in the preceding case of septicæmia. His mind was perfectly clear, and remained so, but peritonitis, pneumonia, pleurisy, and such cerebral effusion as to produce total blindness, so that he could not even distinguish a candle when brought near to him, yet with perfect clearness of intellect, left no doubt that the cerebral serous membrane, like that of the joints and the pleura and the peritoneum, had become affected. Such is the nature of septicæmia that serous membranes are the most susceptible to its influence. Nor is this the only case in which I have seen total blindness produced. In one of the fatal cases of septicæmia at Wellington College the poor boy lost for a time all power of vision, yet his mind remained clear. During the progress of his illness vision returned, and disappeared again, and returned again, and at last he died of pyæmia, to which all cases of septicæmia tend if the patient lives long enough for the more acute inflammatory symptoms to subside and pus to be formed.

All the cases of septicæmia or blood poisoning I have seen begin with the apparently simple sore-throat so well known among the boys at Wellington College, just as the diphtheria does. The throat "opens the door" for the introduction of the poison, for if the sore-throat is adequately dealt with when it first arises, the graver diseases are not elaborated or developed. It is for the bacteriologist to decide by experimental investigation whether the poison in both diphtheria and septicæmia as they occur at Wellington College and the adjacent districts consists of varieties of the same species of micro-organism cultivated from non-pathogenic forms into pathogenic phases of existence by the quality of the soil in which they fructify, or whether they are at all times disease-producing species only waiting their opportunity to permeate the system and to accomplish their deadly work. Viewed from the clinical standpoint, my inclination is to regard both the diphtheria and septicæmia, as seen at Wellington College and thereabouts, to be phases of disease having a common cause, and that cause to be in the nature of the soil of the locality, which all the sanitation there adopted has been so far powerless to eradicate. The soil must be "sterilised," and until it is, diphtheria and septicæmia will recur at Wellington College, and bring the school into more unenviable notoriety than it now possesses.

METEOROLOGY ON BEN NEVIS.

THE establishment of an observatory on Ben Nevis was one of the most substantial advances ever made in this country in the study of meteorology. The observations there recorded have already proved of immense service in promoting our knowledge of the new-born, but already vigorous, science of weather, and no doubt we may look to the same source for much valuable information in the future. The situation of Ben Nevis is not all that could be desired for a national meteorological observatory, among its defects being its liability to fog, but it possesses some considerable advantages, such as elevation and command of the westerly air currents from the Atlantic. To those who have given the subject little attention some of the recorded facts will seem surprising. Thus, we learn that during four days in January, 1891, Ben Nevis, along with the north-west of Scotland, "was enveloped in a warm damp current of air, with the thermometer standing from 25° to 30° higher than over the south of England." This will, however, not seem strange to those who have practically studied the meteorology of these islands and who understand how much more temperature with us depends upon longitude than upon latitude, our climate being much less influenced by our geographical position than by the warm air and fluid currents from the Atlantic. Thus, to take two extremes, Monach in the Hebrides and Penzance in Cornwall possess two of the mildest and most equable winter climates in Great Britain.

One of the most curious of meteorological phenomena has lately been studied with great care on Ben Nevis. We allude to the phenomenon known as "silver thaw," a paper upon which by Mr. R. C. Mossman appears in the recent issue of the Journal of the Scottish Meteorological Society. By silver thaw is meant rain falling when the air is below freezing point and congealing as it falls. The phenomenon "points to an inversion of temperature at the time,

the temperature on the hill-top being considerably lower than at higher altitudes." During the six years 1885-90 inclusive, 198 cases of silver thaw were observed, lasting in the aggregate 873 hours, or a mean duration of four hours and a half for each case. In December, January, and February the average duration of each case was six hours, whereas during the other months of the year it did not continue more than three hours. The phenomenon was found to be practically confined to the winter months, being rare from April to October, and no case having been hitherto recorded in the month of July.

Careful observations have been made with the view of determining the conditions of pressure prevailing at the time of the occurrence of silver thaw. It has been found that "for the 198 days on which the cases were observed on 137 the distribution of pressure was cyclonic, and on sixty-one anti-cyclonic. Almost without exception it was found that "in the anti-cyclonic conditions there was a cyclone central off the north-west coast of Norway, while the centre of the anti-cyclone was over the south of England and Ireland; while in the cyclonic cases Ben Nevis was within the area of low pressure, the centre of which was off the north-west coast of Norway, while the anti-cyclone was over the Iberian peninsula." The lowest temperature at which silver thaw occurred was 18°, and it was of rare occurrence below 27°. Fully 90 per cent. of the cases occurred between 28° and 31·9°. Hence the greater number of cases occurred just before a thaw.

Some interesting facts have been collected regarding the condition of the wind at the time of silver thaw. "The mean velocity of the wind under cyclonic conditions was twenty-one miles per hour; under non-cyclonic seventeen miles per hour. As these were comparatively light winds for that exposed situation, gradients in the vicinity of Ben Nevis were slight. It rarely occurred that the wind attained the strength of a gale during silver thaw. Fully 90 per cent. of the cases were observed when the wind was below Force 4 on the Ben Nevis scale, 0—12 corresponding to a velocity of thirty miles per hour. On the other hand, calms were rare during the phenomenon."

As regards the thermometric and barometric variations about the time of silver thaw, "in cyclonic cases of silver thaw temperature began to rise fifteen hours before the phenomenon commenced, and continued rising during the occurrence, then fell until the sixth hour after it had ceased, when it rose again. The barometer was falling steadily till the phenomenon set in, rose during the thaw, and until nine hours after it had ceased, when it began to fall again, this fall coinciding with a distinct backing of the wind and rise of temperature. In anti-cyclonic cases temperature was rising for eighteen hours before, and continued rising till three hours after the phenomenon, and then fell steadily. The barometer was rising till the fall of silver thaw commenced, and thereafter continued falling steadily during and after the phenomenon."

As regards the distribution of cloud on these occasions, it was found that "the most common type of cloud which preceded both cyclonic and anti-cyclonic cases of silver thaw was cirro-cumulus, frequently accompanied by cirrus and cirro-stratus. These began to form many hours before cumulo-stratus, the prevailing low-level clouds observed during the phenomenon; thus showing that the higher strata of the atmosphere came first under the influence of the moist current, which took from three to eight hours to descend to the height at which cumulo-stratus forms. Shortly after this cloud appeared it descended and enveloped the summit in mist. During the occurrence of silver thaw, and indeed for some time before and after it, the hill-top was wrapped in cloud."

It has been found that the occurrence of silver thaw has some relation to the prevalence of storms. Thus "73 per cent. of the cyclonic, and 63 per cent. of the anti-cyclonic, cases of silver thaw were followed or preceded by gales at some of the twenty-seven selected stations on the northern and north-western coasts of Scotland." This fact is to be noted in connexion with the other fact already adverted to, that high winds were rare at the observatory itself on the occasion of silver thaw. The occurrence of silver thaw preceded the setting in of gales in about 75 per cent. of cases, the further north lighthouses showing the greatest number of storms. The depressions which brought about the phenomenon of silver thaw on Ben Nevis almost invariably travelled in a north-east direction.

The general result of the observations taken renders it probable that "the part of the atmosphere in which silver thaw occurs is of considerable horizontal, but small vertical, extent." Such observations as those recorded by Mr. Mossman are very interesting, as showing the advance of meteorology as a science. They are also very encouraging to climatologists, as proving the rapid accumulation of trustworthy data, available for working out the very abstruse, but most interesting and important, problems relating to the influence of climate upon health, racial vigour, and longevity.

POOR RELIEF.

THE very difficult question of providing relief for the necessities of the poor which shall not involve the somewhat vague reproach of pauperism has elicited among other attempts at its solution a brace of Bills, endorsed by Mr. Bartley, for dealing in the one case with relief during the working period of life, and in the other with the support of old age. The principle of these two Bills is that relief is to be accorded in proportion to the measure of self-help for which the recipient can claim credit. Thus the "Out-door Provident Relief Bill," as it is entitled, is intended to deal with the cases of such paupers as are rendered destitute by temporary or permanent illness or by widowhood, and it proposes to empower the guardians of the poor to grant out-door relief to such applicants to an extent proportioned to that in which they have out of their own savings maintained themselves during the period of distress. Thus a poor man destitute through illness, and still ill when the sick benefit of his friendly society or club is exhausted, may receive from the guardians out-door relief of the same amount, and extending over the same period of time, as that which he has already received as the fruit of his own providence. Similarly, in a case of chronic illness, he may receive permanent out-door relief if he has maintained himself during the illness for a prescribed period of time, varying with the applicant's age, of from six to eighteen months. The case of a widow is dealt with in an analogous way. Again, in the case of the Pensions Bill the benefit is to be extended to three classes of recipients—(1) persons who have never previously received poor relief; (2) those who have made some provision, though partial, for themselves; and (3) those whom exceptional illness or losses commend to the special consideration of the local authorities charged with payment of the pensions. In all cases a conviction of crime or drunkenness, if within the terms of fifteen and ten years respectively, is to operate as a disqualification. Such in brief is the scheme put forward in these Bills, and it may at once be admitted that, as compared with some other schemes that have attained to greater publicity, it has the advantages of superior moderation and economy. In adopting it we should not be so utterly at sea as to its probable consequences as in adopting, for example, Mr. Chamberlain's or Mr. Chas. Booth's projects. The author of the present scheme is even sanguine enough to speculate that its adoption would result in a diminution of the Poor-rate, but here he will hardly convince his audience. The principal cause of pauperism is not sickness and not extravagance, but irregularity of employment; and while this grievous disadvantage besets the condition of the labouring classes, pauperism must and will continue in our midst. The most meritorious scheme for rescuing the poor from the Poor-law which omits to take account of this fact will necessarily fail, and this is the main reason why we cannot look hopefully upon Mr. Bartley's scheme. But it has other and practical faults of very serious import. By making crime, drunkenness, and pauperism disqualifications for the benefits to be conferred, it casts upon the authorities who must administer the Act if passed a burden of investigation which must prove unmanageably great. By what process of inquisition are they to discover whether an applicant who puts forward a claim has incurred during a period of ten or fifteen years any of the disqualifications enumerated? The comparatively simple inquiry as to a pauper's settlement proved under the old law so onerous and expensive that the Legislature was constrained to cut down the scope of the inquiry and confer a settlement upon a three years' residence. How the much more elaborate inquiries involved in the present project are to be carried out does not at all appear, and we

much suspect that the author of the scheme has obtained his peace of mind upon this point by the simple expedient of shutting his eyes to the difficulty. But the defect is one that would be fatal even to a larger and more promising project, and we must confess that we do not find in the two Bills now under notice much help towards the solution of the problem to which they are directed.

LUNATIC ASYLUM REPORTS FOR 1891.

Barnwood House Hospital for the Insane, near Gloucester.—The medical superintendent reports that there were 67 male and 87 female residents in the institution on Dec. 31st last. The recoveries during the year were at the rate of 43·4 per cent. of all the admissions. This rate for the last fifteen years averaged 46·8 per cent., and for the last five years 57·2 per cent. We quite agree with Dr. Needham in the remark that these percentages of recoveries warrant him in making. "When it is remembered," he says, "that patients are received here practically without selection, and in the order of their application, and having in view the obviously incurable character of many of the cases on admission, there would seem to be no justification for the statement that this and other hospitals and asylums for the insane are not as successfully combating disease as other institutions which have as their object the cure of diseases which are more entirely physical in their nature." The four deaths during the year were all from ordinary causes, and gave a proportion of 2·5 per cent. to the average number of patients resident. A considerable proportion of the inmates and of the staff were attacked by the influenza. The outbreak was characterised by a great tendency to relapse, and a curious occasional increase of temperature for some time after apparent convalescence had been reached. In the general management of the asylum the continuous effort has been made to preserve its domestic character, and conduct it less like an institution than a large private house of good type, to make it as little an asylum and as much as possible a hospital and a home. The working party of gentlemen has continued its operations, and a new and fascinating occupation has been found for the ladies in ornamental basket work, which has become very popular. The governors record their great appreciation of Dr. Needham's services. These services will, we are sure, be as successfully devoted by Dr. Needham to his new office and work as a Commissioner in Lunacy. No one grudges him his well-merited and well-earned promotion, while his accession to the board will bring to its councils all the weight of a matured and practical experience in lunacy work.

Glamorgan County Asylum.—The superintendent reports that on Dec 31st, 1891, the numbers were 472 males, 468 females, total 940, showing an increase of 15 males and 13 females. The male admissions were more numerous than in any previous year since the opening of the asylum, and the limited accommodation points to the necessity for new buildings. Dr. Pringle says: "In this, as in former years, I have had to deplore the admission of epileptics, who had been so from childhood, and yet had married and become parents. One woman lately told me she got married because 'everybody' told her if she did so the fits would leave her. I have seldom an opportunity of testing the mental capacity of the partners of such people, as I generally find on inquiry that they have gone to America, or some other distant place as far away as possible from their unhappy mates, and have left their miserable offspring to be maintained by others; and I do not wonder much, since to be tied for life to one of these unhappy creatures is more than can be expected from any average mortal. The deplorable ignorance and recklessness displayed by such marriages, and the grave consequences to the children born of them and the ratepayers, to whom many of them become permanent burdens, make me often think that the schoolmaster is abroad to little purpose, and that it ought to be made a criminal offence to enter into such marriages, or for anyone to celebrate or register them." The discharges of the year give a percentage of recoveries on admissions of 28·8 for males and 30·1 for females. Of the 73 cases recovered 15 were discharged under three months' residence, 20 under six months, 17 under twelve, and 10 from one year to two years; after periods varying from two to five years 9 got well, and from five to ten years 2 got well. The deaths numbered 110, or about 11 per cent. on the average number resident. Eleven of the deaths were from influenza and its sequelæ. Dr. Pringle tells us that "the malady occurred at both our asylums, but was most severe at Parc Gwyllt, which stands about 300 feet higher than Angelton, and has its wards heated at a uniform temperature of sixty-two degrees, whereas at Angelton the wards are chiefly heated by open fires, and in very cold weather cannot possibly be warmed so well or uniformly. Warmth, therefore, seemed to increase the virulence and fatality of the disease." We are scarcely prepared to accept this as the true solution of the difference, as it is so contrary to general experience in dealing with this malady. Additional laundry machinery has enabled the patients to have two changes of underlinen weekly, and the efficiency of the kitchen department of the Angelton asylum has been greatly increased by the substitution of a new cooking apparatus for the old worn-out one. The commissioners in their report intimate their strong desire for some more special supervision and training for the idiot children. "We must urge (as we have so often done in other asylums) the committee to consider whether they cannot join with other counties in setting aside a block, as is done at the Northampton asylum, especially for the idiot children, with special attendants able not only to look after but to instruct and train them. The initial expense is of course greater than their present cost, but no child here is in existing circumstances ever likely to do anything but end his days in the asylum, and be for ever a charge upon the ratepayers, whilst with a little training not a few may be able hereafter to earn their own living; and so upon economical as well as humanitarian grounds we urge this step upon the committee."

THE ROYAL BRITISH NURSES' ASSOCIATION.

THE Right Hon. DAVID EVANS, the Lord Mayor, accompanied by the Lady Mayoress, presided over a meeting held in support of this Association at the Mansion House on Friday last. The President, Princess Christian, who has taken a deep interest in this scheme for ameliorating the condition of nurses generally, was announced to be present, but owing to recent family bereavements was prevented from attending.

The LORD MAYOR announced the objects of the meeting. To a commercial mind it seemed that these objects were just, and that the public should have in the time of sickness a list of competent nurses to choose from, and to know that in doing so they were selecting persons who had been properly certified as nurses. He failed to see what objections could be urged against the granting of the Charter sought for by the Association. The Association was seeking to place its nurses on a par with other professions—the medical profession, for instance—as to proficiency in their particular calling.

Sir WM. SAVORY moved: "That this meeting is of opinion that the Royal British Nurses' Association, which already includes one-fifth of the whole number of trained nurses estimated to be at work in this country, is eminently worthy of public support and of incorporation by Royal Charter, and this meeting considers that the Association is well qualified to carry out the system of registration of trained nurses which it has commenced as a voluntary measure, and that, when fully carried out, this system will fully protect the sick against untrained and untrustworthy workers, to be of great assistance to medical men, and be most beneficial to trained nurses by furnishing easily obtainable information as to the education and experience which each registered nurse has received." He said that nurses were now in a position to claim the power of coöperating for mutual help and general advancement, and the public should insist upon a charter being granted for such purposes and for their own security. He knew of no objections to it which did not resolve themselves into misrepresentation or jealousy. The question, however, was a larger one and belonged to the people.

Sir JAMES CRICHTON BROWNE, in seconding the resolution, referred to the valuable lives that good nursing had saved during the recent epidemic of influenza as a reason

why the nurses themselves should secure the benefits of their federation. These benefits must accrue if the public had facilities for distinguishing between efficient and skilled nurses and those who were nurses only in name and perhaps in uniform, but who had no practical or intelligent acquaintance with the technique of the sick room.

Mr. BRUDENELL CARTER said that the resolution before the meeting asked them to affirm that when fully carried out the system of registration would protect the sick against untrustworthy nurses. These words had been inserted after grave deliberation on the part of the Council. They expressed the conviction that in existing circumstances the sick were liable to have foisted upon them the services of people who, whatever might be their good intentions, were from sheer ignorance absolutely untrustworthy as nurses, and committed the gravest errors in the discharge of the duties which they ventured to undertake. The knowledge of the small proportion of their own earnings which went into the pockets of many nurses first excited his interest in this Association. It had become public information, in consequence of the evidence before Lord Sandhurst's Committee, that at least one of the hospitals in London had been making a profit by sending out imperfectly trained and unskilled women in the name of nurses, and so long as the authorities of any hospital were found to do that, one could hardly wonder that private speculators should endeavour to surpass them at their own game. The publication of the Register provided a real protection against a very real danger.

Dr. BEZLY THORNE explained the nature of the Register, and traversed in detail the objections which had been urged against it. Good nursing, he said, meant the unlearning of habits of half a lifetime and the acquirement of other habits which should be deeply ingrained for the rest of life—habits of order, method, kindness, gentleness, refinement, patience, self-abnegation, and powers of observation; but, above all, the faculty to exercise a wise though limited discretion. These habits could not be acquired by forcing, and consequently the Association required evidence of three years' training before admission to the register could be obtained.

The motion was then put to the meeting by the LORD MAYOR and carried unanimously.

On the motion of Sir DYCE DUCKWORTH, seconded by Dr. PAVY, a resolution was passed tendering the grateful thanks of the meeting to her Royal Highness the Princess Christian "for her great and steadfast exertions to bring about reforms in the nursing profession."

Sir HENRY THOMPSON proposed a vote of thanks to the Lord Mayor for presiding. It was no mean advantage to obtain the aid and advocacy of the head of this great city for a movement of this kind, and the meeting offered him their grateful thanks for his kindness.

The vote, having been seconded by Dr. PRIESTLEY, was agreed to, and the meeting terminated.

THE IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE annual general meeting of this Association was held at 11, Chandos-street, W., on March 17th. In the absence of the president the chair was taken by Dr. Macnaughton Jones. The annual report was read, and, with the balance-sheet, unanimously adopted. The officers for the ensuing year were elected. The annual dinner of the Association afterwards took place in the large room at the Holborn Restaurant. Director-General Dick, C.B., R.N., the new president, was in the chair, and eighty-nine members and guests attended, including several ladies. The Association guests were Sir George Stokes, F.R.S., and Rear-Admiral Colomb. The proceedings were enlivened by an excellent programme of music.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6136 births and 4848 deaths were registered during the week ending March 19th. The annual rate of mortality in these towns, which had been 20·5 and 22·9 per 1000 in the preceding two weeks, further rose last week to 24·8. In London the rate was 24·3 per 1000, while it averaged 25·2 in the thirty-two provincial towns. The lowest rates in these towns were 13·8 in Croydon, 15·6 in West Ham, 15·7 in Brighton, and 17·4 in Newcastle-upon-Tyne; the highest rates were 32·5 in Wolverhampton, 32·7 in Bolton, 33·2 in Salford, 33·1 in Liverpool, and 33·4 in Oldham and in Burnley. The 4848 deaths included 477 which were referred to the principal zymotic diseases, against 390 and 406 in the preceding two weeks; of these, 196 resulted from whooping-cough, 146 from measles, 51 from diphtheria, 36 from diarrhœa, 24 from "fever" (principally enteric), 22 from scarlet fever, and 2 from small-pox. The lowest death-rates from these diseases were recorded in West Ham, Norwich, Portsmouth, and Plymouth, while they caused the highest rates in Sheffield, Salford, Birkenhead, Liverpool, and Wolverhampton. The greatest mortality from measles occurred in Huddersfield, Birmingham, Halifax, Birkenhead, Liverpool, and Wolverhampton; from whooping-cough in Sheffield, Salford, Derby, Bristol, Bolton, and Wolverhampton; and from diarrhœa in Blackburn. The mortality from scarlet fever and from "fever" showed no marked excess in any of the thirty-three large towns. The 51 deaths from diphtheria included 31 in London, 5 in Manchester, 2 in Leeds, 2 in Sheffield, and 2 in Hull. Small-pox caused 2 deaths last week in London, but not one in any of the provincial towns; 16 small-pox patients were under treatment in the Metropolitan Asylum Hospitals, and 1 in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of last week was 1230, against 1190 and 1202 on the preceding two Saturdays; 146 new cases were admitted during the week, against 96 and 117 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 379 and 454 in the preceding two weeks, further rose last week to 523, but were 10 below the average. The causes of 115, or 2·4 per cent., of the deaths in the thirty-three towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Croydon, Bristol, Preston, Sunderland, and in six other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Halifax, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 22·5 and 22·6 per 1000 in the preceding two weeks, further rose to 24·2 during the week ending March 19th, but was 0·6 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 14·1 in Dundee and 15·5 in Perth to 23·9 in Greenock and 28·8 in Glasgow. The 675 deaths in these towns included 28 which were referred to whooping-cough, 15 to measles, 12 to diarrhœa, 7 to scarlet fever, 5 to diphtheria, 4 to "fever," and not one to small-pox. In all, 71 deaths resulted from these principal zymotic diseases, against numbers increasing from 62 to 70 in the preceding three weeks. These 71 deaths were equal to an annual rate of 2·6 per 1000, which slightly exceeded the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 19 and 29 in the preceding two weeks, were 28 last week, of which 15 occurred in Glasgow, 4 in Edinburgh, and 4 in Aberdeen. The 15 deaths from measles were within one of the number in the previous week, and included 13 in Glasgow and 2 in Edinburgh. The 12 fatal cases of diarrhœa showed a further increase upon recent weekly numbers; 6 occurred in Edinburgh and 4 in Glasgow. The deaths from scarlet fever, which had been 4 and 3 in the preceding two weeks, rose again to 7 last week, of which 5 occurred in Glasgow, where 3 of the 5 deaths from diphtheria were also recorded. The deaths referred to diseases of the respiratory organs in these towns, which had been 155 and 154 in the preceding two weeks, increased last week to 183, but were 11 below the number in the corresponding week of last year. The causes of 73, or nearly 11 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 32·7 and 35·5 per 1000 in the preceding two weeks, further rose

to 36·8 during the week ending March 19th. During the past eleven weeks of the current quarter the death-rate in the city averaged 38·3 per 1000, the rate for the same period being 29·4 in London and 19·9 in Edinburgh. The 247 deaths in Dublin during the week under notice showed an increase of 9 upon the number in the preceding week, and included 12 which were referred to measles, 5 to whooping-cough, 3 to "fever," 2 to scarlet fever, 2 to diarrhœa, but not one either to small-pox or diphtheria. In all, 24 deaths resulted from these principal zymotic diseases, equal to an annual rate of 3·6 per 1000, the zymotic death-rate during the same period being 2·9 in London and 2·8 in Edinburgh. The fatal cases of measles, which had been 7 and 12 in the preceding two weeks, were again 12 last week. The deaths referred to whooping-cough, which had been 8 and 6 in the previous two weeks, further declined to 5 last week. The 2 fatal cases of diarrhœa corresponded with the number in each of the preceding three weeks. The 247 deaths in Dublin last week included 34 of infants under one year of age, and 63 of persons aged upwards of sixty years; the deaths of infants corresponded with those recorded in the previous week, while those of elderly persons showed a slight decline. Four inquest cases and 3 deaths from violence were registered; and 79, or nearly a third, of the deaths occurred in public institutions. The causes of 19, or nearly 8 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

THE death is announced from Bombay of Staff-Surgeon John Mackie, aged forty-two, of H.M.S. *Boadicea*. His death was considered to be mainly due to the severe strain he had recently undergone owing to the large amount of sickness that had prevailed on board the flagship. The deceased served on board the *Briton* during the Soudan Expedition of 1884–85, obtaining the Egyptian medal for his services.

Surgeon-Major T. J. Gallwey has been selected by the Commander-in-Chief for employment with the Khedive's Army, and he has been ordered to leave for Egypt at once.

Surgeon-Lieutenant-Colonel A. S. Lethbridge, M.D., C.S.I., Inspector-General of Gaols, Bengal, succeeds Colonel Henderson as General Superintendent of Operations for the suppression of Thuggi and Dacoity.

Surgeon-Captain W. G. A. Bedford has been appointed Adjutant of the depôt and training school Medical Staff Corps, Aldershot, from the 9th inst., vice Surgeon-Captain G. E. Twiss, who has embarked for service at Malta.

ARMY MEDICAL STAFF.—Brigade-Surgeon-Lieutenant-Colonel W. D. Wilson, in medical charge of the Station Hospital at Colaba, has been transferred to the charge of the Station Hospital at Kurrachee, vice Brigade-Surgeon-Lieutenant-Colonel J. M'D. O'Farrell, tour expired.—Surgeon-Lieutenant-Colonel F. Lyons is to take charge of the Hospital at Colaba.—Surgeon-Major R. H. Quill has handed over the charge of the Station Hospital, Deolali, to Surgeon-Lieutenant-Colonel J. D. Edge, on transfer to general duty in the Bombay District.—Surgeon-Major A. L. Browne, Bombay command, has been appointed to the medical charge of the Station Hospital, Mhow.—Surgeon-Captain J. D. Moir has been appointed to the Brigade of Foot Guards for duty. — Surgeon-Lieutenant-Colonel J. G. Williamson has been struck off the strength of the Straits Settlement command on returning to England, tour expired.—Surgeon-Major-General William Arthur Thomson, M.B., is placed on retired pay (dated March 10th, 1892).—The undermentioned Surgeon-Captains to be Surgeon-Majors (dated March 6th, 1892):—Frederick Rowland Barker, M.B.; Alfred Keogh, M.D.; Charles Birnie Hill; James Richardson Andrew Clark, F.R.C.S. Edin.; Henry James Michael; Thomas Dorman, M.D.; Arthur Walter Patrick Inman, M.B.; Thos. Martin Corker, M.D.; Edmond Henry Myles, M.B.; Thomas Beattie Moffitt; Chas. Alfred Webb; Henry Martin, M.B.; Arthur England Johnson Croly, F.R.C.S.I.; Robert Oriel Cusack; Ernest Frederic Smith; William Daniel Amherst Cowen; Robert Hall Forman, M.B.; Samuel James Flood, F.R.C.S. Edin.; Geo. Winsor Robinson; John Watson, M.D.; Octavius Todd, M.B.; Alfred Osmond Geoghegan, M.D.; James Dunne Day, M.B., F.F.P.S. Glasg.; Arthur Maher Kavanagh; John Gasson Harwood, F.R.C.S. Edin.; Robert Dickie Donaldson, M.D.; Henry Lawrence Esmonde White; Arthur Hyde Burlton; Edward North, F.R.C.S. Edin.; George Frederick Poynder; George Frederick Alexander Smythe, F.R.C.S. Edin.; Henry Lewis Battersby; Augustus Hewett, F.R.C.S. Edin.; Peter Mulvany; James Edward Nicholson; William Owen Wolseley; Thomas Frederick MacNeece; Benjamin Thomas M'Creery, M.B., F.R.C.S.I.; Arthur Patrick O'Connor, F.R.C.S.I.; James M'Mullen Bolster, F.R.C.S.I.; Douglas Wardrop, M.B.; Geo. Taylor Goggin; John Matthew Jones; Fausset Maher Baker, M.B.; Alfred Asbury, F.R.C.S.I.; Patrick Maurice Carleton, M.D.; Fitzroy Beresford Maclean; Raglan Wykeham Barnes; and Patrick Halion Fox, F.R.C.S.I.

ARMY MEDICAL RESERVE OF OFFICERS. — Surgeon-Lieutenant-Colonel Charles Arthur Patten, 2nd Volunteer Battalion, the Duke of Cambridge's Own (Middlesex Regiment), to be Surgeon-Lieutenant-Colonel (dated March 23rd, 1892).

NAVAL MEDICAL SERVICE. — The following appointments have been made at the Admiralty:—Surgeons: A. G. W. Bowen, B.A., M.B., to Plymouth Hospital (dated March 23rd, 1892); Richard L. Price, M.B, to the *Pembroke*, and Montague L. B. Rodd, to the *Vivid*, additional, for disposal (both dated March 29th, 1892); Herbert L. Penny, to the *Excellent*, additional, for disposal (dated April 8th, 1892); and Arthur E. Kelsey, B.A., M.B., to the *Pembroke*, additional, for disposal (dated April 1st, 1892).

VOLUNTEER CORPS.—*Light Horse:* 1st Roxburgh (Border) Mounted Rifle: Surgeon-Lieutenant-Colonel P. Kynoch (Brigade-Surgeon-Lieutenant-Colonel) resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the Corps on his retirement.—*Artillery:* 1st Renfrew and Dumbarton: Surgeon-Major J. W. Taylor, M.D., to be Surgeon-Lieutenant-Colonel (dated March 23rd, 1892).—*Rifle:* 1st Volunteer Battalion, the East Yorkshire Regiment: Surgeon-Captain R. Hagyard resigns his commission (dated March 19th, 1892).—2nd (Hertfordshire) Volunteer Battalion, the Bedfordshire Regiment: The undermentioned Honorary Assistant Surgeons resign their commissions:—S. B. Farr and F. R. Webster (both dated March 19th, 1892).—5th Volunteer Battalion, the Cheshire Regiment: Surgeon-Captain W. R. Dambrill-Davies to be Surgeon-Major (dated March 19th, 1892).—1st (Pembrokeshire) Volunteer Battalion, the Welsh Regiment: Surgeon-Major E. P. Phillips to be Surgeon-Lieutenant-Colonel who resigns his commission; and to be permitted to retain his rank, and to continue to wear the uniform of the Battalion on his retirement (dated March 19th, 1892).—1st (Hallamshire) Volunteer Battalion, the York and Lancaster Regiment: Surgeon-Major A. Hallam resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the Battalion on his retirement (dated March 19th, 1892).

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—The annual meeting of governors was held in the Bell Medical Library and Institute on Tuesday, the 8th inst. The total number of patients treated during the year was 16,133. The number of in-patients has been 2168. Of these, 895 were medical and 1273 were surgical cases; 1531, as accidents or urgent cases, were admitted without tickets. The total number of out-patients has been 13,965, showing an increase of 936 as compared with the previous year. Of these, 6636 were treated without tickets, being accidents or urgent cases. The income for the past year amounted to £7465 19*s.* 2*d.*, being a decrease of £88 3*s.* as compared with the previous year. The donations show a decrease of £234 5*s.* 1*d.*; but it is very gratifying to find an increase in the Hospital Saturday collections of £173 15*s.* 5*d.* The total expenditure for the past year has amounted to £7751 6*s.* 8*d.*, showing an increase of £159 16*s.* 2*d.* On the suggestion of the Hospital Saturday committee it has been decided to purchase a horse ambulance and a manual ambulance, which will always be in readiness at the hospital for the conveyance of accidents from any part of the town or district to the institution. The want of increased sanitary accommodation in connexion with the female wards, and also additional rooms for the nurses, having occupied the careful attention of the board for some years past, plans were obtained for building an additional storey over the out-patient department, and the work, which is nearly completed, will provide five additional rooms, besides three bath rooms, lavatories, and necessary offices.

Correspondence.

"Audi alteram partem."

COMPARATIVE ACTION OF THE DIFFERENT BRANDS OF CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—The above research was prompted by the records in recent medical journals of deaths during anæsthesia. We believed that differently manufactured chloroform, although conforming to the tests required by the British Pharmacopœia, might have different actions, and that possibly some of the dangers were due to the use of impure chloroform. We determined to test this assumption by administering chloroform to guinea-pigs. The same animals were put under the influence of the brands (subsequently referred to) on different days, as only in this way, we considered, could a careful comparative estimate of their action in each case be satisfactorily ascertained. We therefore obtained samples of: (1) Pictet's chloroform medicinale; (2) Duncan, Flockhart, and Company's, made from pure alcohol; (3) Macfarlan and Company's chloroform. pur., prepared with rectified spirit; (4) Macfarlan and Company's chloroform. pur.; (5) Duncan, Flockhart, and Company's "blue brand"; (6) Warrington Chemical Company's chloroform. The usual method of administering the vapour on a piece of blotting-paper under a bell jar was followed, the quantity in each case being thirty minims. We then noted (1) what difference there was in regard to the time of inducing anæsthesia; (2) the time when respiration ceased; (3) the time of recovery after artificial respiration—i.e., when the animal was able to move about easily; (4) any other differences.

The following average results were obtained:—

	Anæsthesia.	Respiration ceased.	Recovery.	Remarks.
	M. S.	M. S.	M. S.	
1. Pictet's Chloroform Medicinale	4 20·0	1 36·6	7 40	No tremors
2. Duncan, Flockhart, and Co.'s, from pure alcohol	4 21·6	1 13·33	8 50	No tremors
3. Macfarlan and Co.'s Chloroform. Pur., prepared with rectified spirit	5 8·0	1 50·0	12 36	Rhythmic tremors distinct
4. Macfarlan and Co.'s Chloroform. Pur.	4 57·0	1 26·0	11 48	Rhythmic tremors distinct
5. Duncan, Flockhart, & Co.'s Blue Brand	3 59·3	4 43·3	18 20	Rhythmic tremors pronounced
6. Warrington Chem. Co.'s Chloroform	3 55·0	2 0·0	13 20	Rhythmic tremors pronounced

The conclusions from this research, so far as it goes, show that there is a very evident difference of action exhibited by chloroforms of different manufacture. Thus, with the first two brands (Pictet's and Duncan, Flockhart, and Co.'s) recovery was quicker than with the other four; and further, during recovery no rhythmic tremors were observed. We may therefore assume that these latter brands contain some substance or substances extraneous to pure chloroform. What the nature of this substance or these substances may be we cannot at present determine. At our suggestion Mr. Tatlock, City Analyst for Glasgow, has kindly undertaken to make an exhaustive chemical examination of the different brands. On the completion of the inquiry we shall give the results. The research is by no means completed, but we deem it advisable to place before the profession the results of this preliminary inquiry. At as early a date as possible we shall make a fuller statement, and give details of the experiments and the action of different brands of chloroform. It may be mentioned that our observations are entirely in correspondence with those of the recent Hyderabad Commission—viz., that the heart continues to beat after respiration has ceased.—We are, Sirs, yours truly,

M. CHARTERIS, M.D.,
Prof. Mat. Med. and Therapeutics, Glasgow Univ.;

WM. MACLENNAN, M.B.,
Assistant to Prof. Mat. Med. and Therapeutics, Glasgow.

The University, Glasgow, March 19th, 1892.

THE SPREAD OF LEPROSY.

To the Editors of THE LANCET.

SIRS,—Since reading the valuable paper by Dr. Thin "On the Origin and Spread of Leprosy &c.," which appears in THE LANCET of Jan. 16th, I have on several occasions thought that the following account of an instance which occurred in my experience might not be uninteresting. Some twelve years ago, whilst I was resident surgeon of the Colonial Hospital in Georgetown, British Guiana, the females and children of the Mahaica Leper Asylum were transferred to a building some distance from the hospital. The house in which these lepers were placed was situated—an unavoidable condition owing to circumstances—about thirty yards to the windward side of a house occupied by one of the married attendants of the institution. This man had a family of five children, all of whom I knew, and can answer for the fact that they were healthy children at that time, ranging from five to fifteen years. The lepers remained there whilst other quarters were being prepared for them—for several years in all. Notwithstanding every precaution there was a certain amount of covert intercourse between the children of the parties above referred to, and now one of the children of the attendant has developed for some years past the disease. As regards the parents of this child, they are both immigrants of the colony, without any symptoms of leprosy; the father a white man from Madeira, the mother an Englishwoman. To what, then, must we attribute this development of the disease—contagion or coincidence? Whatever convictions resulting from experience may be held by other persons, I must say that the case I now record is, in my opinion, very strong evidence of there having been some contagious influence at work, and it supports me in what I tried to make understood when I had any dealings with lepers—that it is a disease which is slowly contagious under certain conditions of environment and individual idiosyncrasy. It is contagious not in the same way as we understand this expression when applied to such diseases as the exanthemata, but slowly, in such manner as it is now held that phthisis pulmonalis is contagious. Such a case as that which I have recorded above could, I know, be swamped by instances of persons who, through long exposure to, and intimate relationship with, leprotic influences and persons, had remained unaffected; yet such would only be negative evidence, and, indeed, might be pointed to in any disease—markedly phthisis. Yet I doubt if any medical man maintains that this latter disease is incapable of being bestowed in course of time by the diseased on those who may not actually be consumptive, but who are in a condition of "physiological misery" rendering them hotbeds for the germination of the provoking cause of such disease. Similarly I believe in an individual idiosyncrasy as a very potent factor assisting the contagium of leprosy, for we often notice that only one or two members of a family develop the disease whereof all were subjected to the same morbific influence, and it is this individual vulnerability which gives the disease a foothold, as it were, in such suscepts constitution when exposed for any length of time to leprous influences. Such influences can undoubtedly be combated by sanitary and hygienic improvements, as may all the diseases which flesh is heir to; but it would be a somewhat ideal condition of things which would render such baneful influences inoperative, and till such condition is reached it is imprudent that the two classes, the leprous and the non-leprous, should be permitted to co-mingle for any length of time.

I am, Sirs, yours faithfully,

London, March 10th, 1892. C. E. MACNAMARA.

POST-MORTEM APPEARANCES OF THE BRAIN IN INFLUENZA PATIENTS.

To the Editors of THE LANCET.

SIRS,—As the above subject is now being discussed in THE LANCET, perhaps I may be allowed to say a few words, having, with my colleagues, during the first two months of this year had exceptional opportunities for examining the brains of those dying from the complications following influenza, for I am sorry to say we lost a large number of our very old patients from secondary pneumonia. On referring to the notes made at the time, I find that in a large number of the cases there was marked congestion of the pia mater recorded both by Dr. Ewart and myself. This was to an extent unusual, as seen in the brain of the insane. The engorgement of the vessels was most marked at the upper surface and sides, and in many instances it was very slight at the base. This condition existed in 55 per cent. of our cases. Usually only the larger vessels were distended, but in one of my cases there was intense injection of the minute capillaries over the surface of the convolutions, especially at the upper part of the cerebrum, and comparatively little at the base. The congested state of the pia mater extended down over the medulla and spinal cord, but in no other of my cases was this so. In this case also there existed a deeply congested false dura mater, which in places could be easily peeled off the under surface of the true one, whilst in others it was firmly adherent. The vessels in the dura mater, contrary to what was usually found, were in this case much congested; in only one other of mine was this noticed. In another brain, the vessels over one cerebral hemisphere only were engorged with blood; on the other, the right, they were empty and the brain was anæmic. In this case, however, the right vertebral artery was extremely small.

Dr. Ewart, who kindly allows me to mention his cases, states that in one of them the venous sinuses at the base were much engorged. In another, "the vessels, especially the veins of the pia mater, were loaded with blood, the dura mater vascular, and a clot existed on its outer surface, the diplocic tissue was engorged": and in a third case "after removal of the pia mater (which was congested) the convolutions of the upper surface were seen punctated with vascular points. There was no abnormal appearance of the membranes or vessels at the base." In very few of our cases was the engorgment of the vessels at the base noticed to the extent referred to by Dr. Althaus, and beyond what has been stated, there was no other morbid condition present that could in any way be said to be dependent on either influenza or pneumonia. Other lesions of the brain invariably existed, but were such as are common to those dying in lunatic asylums. In not one of our cases was there any actual inflammation of the membranes present. I am inclined to agree with Dr. Goodall that the majority of the cases first brought forward showed lesions probably unassociated with influenza; but whether the hyperæmia of the pia mater, so often found, is dependent on the secondary pneumonia, or owes its origin to the primary disease, is not easy to prove, although I do not believe there is any doubt that simple pneumonia may give rise to a congested state of the membranes. My colleague, Mr. R. Rouse, however, informs me that in a certain number of the brains of male patients examined by him he found, in addition to an intense congestion of the membranes, an actual deposit of recent lymph on the pio-arachnoid, which could be stripped off with ease. This existed in three out of about eight cases examined. He has, moreover, seen actual purulent cerebro-spinal fluid present in a patient who died from influenza, and he is firmly convinced himself that a cerebro-spinal meningitis existed in these cases, and perhaps is always present with influenza. This may be said to be evidence in favour of Dr. Althaus' view of the nature of the so-called influenza. I am, Sirs, yours faithfully,

CECIL F. BEADLES,
Assistant Medical Officer.

Colney Hatch Asylum, March 15th, 1892.

To the Editors of THE LANCET.

SIRS,—In concluding my share in the communications made in THE LANCET upon this subject, I should like to correct an accidental misrepresentation made by Dr. Althaus in his somewhat limited advocacy of the significance of the cases quoted by him. It is stated that I suggest that hæmorrhage into and softening of the cerebellum in a healthy patient aged twenty-five might be due to sneezing and coughing. I need only remark that at the time I wrote there was no means of knowing the patient's state of health or age, since neither was mentioned in Dr. Althaus' communication. This "startling suggestion" cannot, therefore, be attributed to me.—I am, Sirs, yours faithfully,

EDWIN GOODALL, M.D. Lond.

West Riding Asylum, March 20th, 1892.

THE ASSOCIATION OF MEMBERS OF THE ROYAL COLLEGE OF SURGEONS.

To the Editors of THE LANCET.

SIRS,—I fully endorse all that Mr. Jabez Hogg has said regarding the unwavering support which THE LANCET has always given to all efforts in the direction of reform at the College of Surgeons. With regard to his allusion to the difference of opinion which has existed as to the advisability of the legal proceedings now terminated, I should like to draw attention to a point which has not received sufficient notice. The Members have been agitating for the acquisition of certain changes in their relations to the government of the College, which they believed would be of advantage, not to themselves as individuals, but to the corporation as a whole. During the course of their agitation they were advised by the counsel who represented them in their application to the Privy Council, in opposition to the new Charter, and who therefore presumably had special knowledge of the subject, that they had already certain legal rights which had fallen into abeyance, but which could be revived by being exercised. Upon this advice the committee had obviously no alternative but to obtain a legal decision, when the attempt to exercise one of these alleged rights was forcibly resisted. I am bound to add, however, that the majority of the committee would have been much better pleased if the action could, by arrangement with the Council, have been made a "friendly" one. I am, Sirs, yours faithfully,

Southfields, S.W., March 21st, 1892. W. G. DICKINSON.

MEDICAL AND LEGAL CORONERS.

To the Editors of THE LANCET.

SIRS,—Allow me to thank you for your favourable notice of my paper, and to point out two errors into which I have inadvertently fallen. The first is on page 8, in which I have led it to be inferred that Mr. Oliver Pemberton, the coroner for Birmingham, is debarred from practice. This is not correct. The other is in a footnote on the same page. Instead of the "Coroners Act, 1887," it should be the "Municipal Corporations Act." A very slight alteration in this latter would enable any physician or surgeon to act as deputy coroner as well as coroner in any municipal corporation or city, and I live in hopes that this will be effected.

I have posted copies of my paper to every English and Welsh medical coroner, but have received only two acknowledgments of their receipt. Should any have miscarried, I will send another.—I am, Sirs, yours faithfully,

Liverpool, March 19th, 1892. FRED. W. LOWNDES.

P.S.—A physician or surgeon can be deputy to a county coroner.

*** We inadvertently omitted to give the name of the publishers of Mr. Lowndes' pamphlet—Messrs. Churchill, New Burlington-street.—ED. L.

To the Editors of THE LANCET.

SIRS,—I was much interested in reading the leading article in the last issue of THE LANCET concerning the office of coroner, and who are the best persons to hold the post. I wish to draw the attention of the medical profession to the fact that the Bill that was read a first time in the House of Commons a few weeks ago to amend the Coroners Act of 1887 does not propose to alter the clause relating to the appointment of "deputy coroner." With regard to large towns such as Bristol, the Act of 1887 says "that the office of coroner may be held by any fit and proper person &c." And the

same Act goes on to say that "the coroner may appoint a deputy &c.," but that such person must be either a "barrister or solicitor." I conclude from this that in the large cities the "coroner" may be a medical man, but that the "deputy coroner" may not. It is clear from this that when the office of coroner becomes vacant only barristers or solicitors can claim to have acted as deputy, and they are therefore usually elected to the coronership. I think that if our profession wish to see more medical men holding the office of coroner in large towns, we ought to get the clause relating to the appointment of the coroner's deputy altered, and now is the time to do it.

I am, Sirs, yours truly,

J. PAUL BUSH,
Surgeon to the Bristol Royal Infirmary and Bristol Police Force.

Clifton, Bristol, March 22nd, 1892.

*** We would call the attention of Mr. Bush to the postscript of Mr. Lowndes' letter.—ED. L.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

An Incorrigible Young Criminal.

AT the last assizes two boys, aged respectively nine and eight, were tried for the wilful murder of a boy about the same age. A leading article appeared in THE LANCET of Jan. 2nd last dealing exhaustively with the main feature of the case—the responsibility of such young criminals. The jury found a verdict of guilty, but with a rider to their verdict which caused the learned judge (Justice Lawrance) to order the immediate discharge of both prisoners. Subsequently the Rev. Father Nugent, the well-known philanthropist, offered to receive the boys, who are Roman Catholics, into his Boys' Refuge. While it is very satisfactory to be able to state that one of the boys is behaving admirably in his new home, it is equally sad to note that his companion has again appeared before the stipendiary magistrate. A policeman found him lying in a water-closet at an early hour of the morning, and locked him up. The governor of the Boys' Refuge described the prisoner as unmanageable, and that he had absconded four times. He was remanded.

An Intramural Cemetery.

St. James's Cemetery is situated almost in the centre of the city, and close to the streets where many of the local faculty reside. It was first opened in 1829, on the site of a stone quarry, and most of the ground used for interment is at a very considerable depth below the level of the adjoining streets. The enclosed space comprises 44,000 square yards of land, which is mostly red sandstone, dry, and suitable for burial purposes; though it is stated that in some parts the graves are full of water. Some years ago an inquiry was held by the late Mr. Holland; this was subsequent to the year 1854, when most intramural burial grounds were closed by Order in Council, though this cemetery was not closed. At this inquiry it was shown that the burials in public graves were not conducted satisfactorily, and these were prohibited by Order in Council on Mr. Holland's report. Since then the burials have been mostly of the bodies of those belonging to the upper and middle classes of society, averaging in recent years 500 annually. Some of those who reside near hoped that the recent death of the Rev. William Banister, who had been resident chaplain since 1851, would have led to the closing of the cemetery; but a reverend gentleman has been appointed to succeed him, and the cemetery is still used, not only by those who are the owners of graves and vaults, but fresh ground, of which there still remains a very considerable portion, is still broken. A discussion is going on in a daily paper as to the propriety of continuing this burying-place in the midst of a large centre of population. Much can be said both in favour of and against its being closed. It is greatly to be wished that an inquiry will be ordered by the Home Secretary, so that both sides may be heard, and that a just decision may be made.

The Rainhill Tragedies

There was never a better illustration of the old saying that truth is stranger than fiction than the recent tragic discovery at Rainhill. Even with the proximity of a large county asylum and of a railway station at which many trains stop and more pass through, Rainhill has the appearance of a peaceful English village of the most model type, and it is hard to realise that such atrocious deeds could have been permitted in its midst. Some surprise has been expressed in medical circles that Mr. Brighouse, the county coroner, did not avail himself of the services of the lecturer on Medical Jurisprudence at the Liverpool University College, Mr. Paul having now acquired a considerable reputation in forensic medicine, and having given evidence in many important trials. It is only just, however, to the medical gentlemen called, Drs. MacLennan and Hutchinson, of Widnes, to say that the examinations of the bodies were made in a very complete and satisfactory manner, and that the evidence was given with great clearness.

An Epidemic of Violence.

From time to time crimes of violence, often taking the form of assaults upon the police, assume an epidemic form, and it is significant that Saturday and Sunday are the days specially selected for these displays. On Monday last the local stipendiary magistrate, Mr. W. J. Stewart, had a batch of five such cases, two being assaults on the police. The magistrate had noticed an increase of late in assaults on the police, and intimated plainly that he should punish severely such violence.

March 22nd.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Tyne Port Sanitary Authority.

THE report of our able medical officer of health, Dr. H. E. Armstrong, has been presented to the Tyne sanitary authority, and shows that the total number of vessels inspected during the year was 11,513. Of these, 8702 were British. There were 9513 passed as in good sanitary condition, 1209 being passable, and 811 defective. The inspectors had visited 199,719 crews of vessels, passengers, and emigrants arriving in the Tyne. With the exception of three, all the vessels were found in good condition. Large consignments of herrings and other fish continued to come from Norway. No case of overcrowding passengers or crews had come under notice. The report is a record of an immense amount of work done and of good effected, and is creditable to all concerned in the inspection.

Carlisle: Silloth Convalescent Institution.

The twenty-ninth annual meeting of the Cumberland and Westmoreland Convalescent Institution at Silloth has been held at Carlisle, the mayor presiding. The results of the year's working had been most satisfactory; 641 patients had participated in the benefits of the institution, of whom 518 had gained weight during their stay. The financial statement was satisfactory, and a balance on the year's working was carried to the building account.

Sunderland Provident Dispensary.

The annual meeting of the Sunderland Provident Dispensary has been held, and the report records a very large amount of work, which is shown by the statement that 24,500 prescriptions had been dispensed, while the number of visits paid by the medical officers to patients at their own houses was 13,000. No less than 18,000 consultations had been given at the dispensary or at the medical officers' own houses. The financial statement was satisfactory, showing that, after paying the medical officer £600, a balance had been carried to the reserve or contingent funds. The committee is hopeful of obtaining within the next few years new and more commodious premises, centrally situated, to enable the Sunderland Dispensary to take its proper position amongst the public institutions of the town.

Sudden Death of Mr. John Davis, M.R.C.S.

The death of Mr. John Davis, surgeon, of Sunderland, is announced, which took place at his residence early on Saturday morning last. Mr. Davis, who was in his sixty-fourth year, leaves a grown-up family. He was much respected as a practitioner and a citizen, and filled many public offices at the time of his death. Mr. Davis was chairman of the board of guardians, and on the evening preceding his death attended a meeting of the house committee. He was, if I mistake not, a member of a well-known medical

family of that name, of Workington, near Gateshead, and of Low Fell. Mr. Davis's father was in his time the only surgeon in practice in the wide district between Gateshead and Durham city.

Bacteriological Laboratory.

In the course of his lecture last week on "Human Parasites" Mr. Page mentioned to the very large audience "that it was due to an eminent citizen of Newcastle, Mr. Clement Stephenson, and his investigations into the relationship of animals to man, that the College of Medicine at Newcastle had been recently able to establish within its walls a laboratory thoroughly equipped with the most modern appliances for the investigation of the many interesting problems constantly arising in this department of study." In addition to Mr. Stephenson's pecuniary aid it should not be forgotten, however, that Dr. Heath also gave powerful assistance and impetus to the establishment of a bacteriological laboratory in the Newcastle College of Medicine. I hope in some future notes to give you a fuller account of this department.

A Coroner and Jury on "Viewing the Body."

At Jarrow the other day, at the conclusion of an inquest, the foreman wished to express the feelings of the jury on the objectionable and useless rule of "viewing the body," and asked, on the part of the jury, to be allowed to sign a petition against it. The coroner, however, suggested it would be better to petition in favour of a Bill, now before the Legislature, dealing with the question of "viewing the body," and this suggestion was carried out.

Professor George Hare Philipson, M.D., D.C.L., F.R.C.P., has been elected President of the University of Durham College of Medicine, Newcastle.

I hear that measles are so prevalent at Blackhill, in the county of Durham, that it has been requisite to close the Benfieldside Board schools. St. Mary's Roman Catholic schools have been closed for some time owing to the same cause.

Dr. Jeaffreson has announced a course of lectures on "Diseases of the Eye" during the ensuing session at the Eye Infirmary; also two special lectures on the ocular defects of children, open to school masters and school mistresses and others having the charge of children. A course of sanitary lectures is also announced, under the auspices of the Sanitary Institute and the Corporation of Newcastle. At the close of these lectures an examination for inspectors will be held.

Newcastle-on-Tyne, March 23rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Dinner to Professor Haycraft.

ON Thursday of last week Professor Haycraft was entertained to dinner by a number of his friends in Edinburgh. Dr. James occupied the chair, and Mr. Cathcart, F.R.C.S., was croupier. About forty sat down to dinner. Dr. James, in proposing the health of their guest, referred in well-chosen and appreciative terms to the important work he had performed as a teacher of advanced physiology in the University, and to the value of his original researches, and said that the reason of their meeting that evening was to express their appreciation and admiration for Professor Haycraft and their regret at the severance of his connexion with the Edinburgh School of Medicine. The toast was received with great enthusiasm. Dr. Haycraft, after acknowledging it and thanking his friends for their kindness to him, spoke of the spirit in which scientific work ought to be prosecuted, and animadverted on the commercial spirit which tended to pervade both teachers and taught. Dr. Haycraft was presented with a gold watch as a memento of the occasion.

Health of Edinburgh.

The mortality last week was 107, making the death-rate 21 per 1000. Diseases of the chest accounted for 47 deaths, and zymotic diseases for 7, of which 4 were due to whooping-cough. The intimations for the week were: typhus fever, 2; typhoid fever, 1; diphtheria, 4; scarlatina, 24; and measles, 58.

Aberdeen City Hospital.

The Public Health Committee of the Town Council are understood to have completed arrangements for the removal of patients suffering from infectious diseases and the proper disposal of infected clothing. Some time ago the committee purchased a new ambulance in which patients could be carried with the least possible inconvenience; and the old ambulance, which was unsuitable for the purpose of conveying patients to and from the hospital, is now being used for the removal of infected clothing to the hospital for disinfection.

Health of Aberdeen.

During the past week the following cases of zymotic diseases were notified to the medical officer of health:—Scarlet fever, 9; typhoid fever, 4; diphtheria, 2; whooping-cough, 51; erpsipelas, 6. Three deaths from influenza were recorded by the registrars during the week. In his report for February, Dr. Hay, medical officer of health for the city, says that during the month 14 deaths were attributed to influenza, as against 41 in January, 21 in December, and 3 in November. In the fatal cases the duration of the disease was from three weeks to one or two months. The epidemic of scarlet fever continues to decline. Whooping-cough is still very prevalent; during the month 222 cases, with 21 deaths, were recorded. In January there were 239 cases, with 22 deaths. There were 7 cases of typhus fever, and they nearly all came from a single tenement in an east-end street.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Abolition of Visiting Physicians to Irish Lunatic Asylums.

THE governors of the Cork District Asylum have forwarded to his Excellency the Lord-Lieutenant a resolution protesting against the proposal to remove the visiting physicians of Irish lunatic asylums, and it is probable that other boards of asylums will follow the same course.

Sir P. Dun's Hospital.

A ball in aid of the funds of this valuable charity will be given under the patronage of her Excellency the Countess of Zetland and other distinguished ladies, in the Leinster Hall, on the 30th inst.

University of Dublin Tercentenary.

The following is the programme of the Tercentenary Celebration which has been adopted by the Tercentenary committee:—Tuesday, July 5th, at 10 A.M., reception of guests and delegates by the provost in the Examination Hall; 11.30 A.M., commemoration service in St. Patrick's Cathedral, guests and delegates to attend in academic robes or official costume; 4 P.M., garden party in the Fellows' Garden; 9 P.M., performance of Tercentenary Ode by University Choral Society; 10 P.M., reception and ball in the Mansion House. Wednesday, July 6th, 12 noon, conferring of honorary degrees in the Examination Hall, Trinity College; 3 P.M., inauguration of the Graduates' Memorial; 7.30 P.M., Tercentenary Banquet in the Leinster Hall. Thursday, July 7th, 11 A.M., procession in academic costume from the Examination Hall to the Leinster Hall; 11.30 A.M., presentation of addresses by the delegates, Leinster Hall; 8 P.M., dramatic performance in the Gaiety Theatre, at which Sheridan's "Rivals" and a farce written for the occasion will be performed. Friday July 8th, 11 A.M., addresses to the students by certain of the University guests in the Examination Hall; 12.30, College races; 10 P.M., University ball, Leinster Hall.

March 23rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Toxic Dyspnœa in Cardiac Affections.

AT a meeting of the Société Médicale des Hôpitaux, held on the 4th inst., M. Huchard read a paper on a Form of Dyspnœa—toxic dyspnœa—occurring in cardiac cases, which is scarcely alluded to by any author. It often happens that a patient affected with disease of the aortic valves is seized with a form of dyspnœa distinct from the mechanical difficulty of breathing ordinarily met with in cardiac disease, and characterised by its intensity and its paroxysmal nature, the attacks being provoked by the least effort, and

also occurring spontaneously in the night. Physical examination of the heart and lungs fails to account for these attacks, and the urine is free from albumen. M. Huchard ascribes the paroxysms to renal insufficiency, the kidneys being incapable of completely eliminating the toxines introduced into the system through the alimentary canal. This renal insufficiency is, according to this authority, an early and nearly constant symptom in arterial cardiopathies, even in the absence of albuminuria. In support of this etiological hypothesis M. Huchard adduces two proofs, one of a therapeutical and another of an experimental order. The exclusion from the diet of all articles yielding a supply of toxines—soups, meat, fish, preserved meats, rich cheeses, &c.—suffices to bring about the disappearance of the attacks, and they no longer recur if a rigid milk regimen be instituted. The urine of these patients (taken before any treatment had been commenced) injected into the veins of animals was found to have a urotoxic coefficient ranging from 0·273 to 0·370, a coefficient markedly inferior to the normal, which is 0·464 (Bouchard). In certain instances, however, when hepatic insufficiency complicates the case, the urine may become hypertoxic, the toxines normally destroyed by the (healthy) liver, passing through the kidneys. After a certain time this hypertoxicity irritates the renal tissue and induces albuminuria. The nocturnal character of the dyspnœa in this class of cases is explained by the fact that the elimination of poisons is more active at night than during the day. The treatment found effectual by M. Huchard is the institution of an exclusively milk diet or a period of from one to three days, the diet to be then modified by the addition of eggs, vegetables, and overcooked meat, all articles of food containing toxines to be rigidly prohibited. It will often be necessary to prescribe, in addition, intestinal disinfectants, such as salol, betol, naphthol, salicylate of bismuth, and, above all, benzo-naphthol. Hydrochloric acid benefits these patients. In the interval of the attacks, iodide of potassium—or, preferably, iodide of sodium—should be prescribed. M. Huchard states that his experience of the employment of bromide of potassium for the relief of the early toxic dyspnœa is a disappointing one, that drug failing to relieve it in the least.

Death from Rupture of the Thoracic Aorta in a Man of twenty years.

The rarity of this accident in so young a man entitles the details as given by M. Vibert[1] to the honour of a record in your columns. The patient was a medical student who at the age of one year had suffered from convulsions, and four years later had gone through an exceptionally severe attack of typhoid fever. Since that period of his existence his health had been apparently good, no suspicion of heart disease having ever been entertained. On Feb. 8th he returned to his lodgings well and cheerfully disposed. In the course of the night, however, he was seized with a very sharp pain over the liver, which was only partially relieved by bilious vomiting which supervened in the morning. At 6 P.M. on Feb. 9th the sharp pain reappeared, and one hour later the patient uttered two loud cries and fell back dead. Post mortem the two pleural cavities were found to contain blood, as much as 1800 grammes being collected from the right cavity. The pericardium contained a little clear fluid; no trace of tuberculosis was discovered in the lungs. The aorta was enclosed in a mass of coagulated blood, the removal of which brought to light two transverse tears in the walls of the vessel. The middle coat in the neighbourhood of the tears was in a state of degeneration. MM. Vibert and Brouardel are inclined to ascribe this structural change to the attack of enteric fever undergone fifteen years previously.

March 23rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Fourteenth Balneologists' Congress.

THE first sitting of the Fourteenth Balneologists' Congress was held here on Friday, the 11th instant, Professor Liebreich in the chair. Dr. Weissenberg of Kolberg spoke on the treatment of nervous diseases of the stomach, and Dr. Boas and Professor Ewald commented on his remarks. Dr. Lassar of Berlin discussed the treatment of eczema by baths. Dr. Mayer of Karlsbad treated the question, "What standpoint must we now take in the light of experience in the treatment of diabetes mellitus?" In the discussion Dr. Gaus of Karlsbad referred to the dietetic treatment of Külz of Marburg. The second sitting was held on the 12th, Dr. Thilenius in the chair. Dr. Römpler of Görbersdorf spoke on the treatment of phthisis and Koch's method, severely criticising the latter. Dr. Goldschmidt of Reichenhall treated the initial symptoms of nervous asthma; Dr. Lindemann of Heligoland, the effect of sea water; and Dr. Groedel of Nauheim, the introduction of uniform rules for reporting analyses of spring water. The last sitting was held on the 13th, Professor Liebreich in the chair. Dr. Posner of Berlin spoke on the internal treatment of stone, Dr. Frey of Baden-Baden on the watering places of the Black Forest, Dr. Joseph of Landeck on the etiology of neurasthenia, and on the American viburnum. Dr. Saalfeld of Berlin discussed the treatment of skin diseases by baths, and Dr. Schubert of Reinerz, bloodletting in chlorosis, which he warmly recommended, emphatically contradicting the objection that the cures he had effected were due to other causes. The Congress was closed by a banquet.

Professor Credé.

Professor Carl Credé of Leipsic, who died last week, was a great benefactor of mankind, for it was he who introduced the simple method now universally practised of preventing blennorrhœa in new-born infants. He was also the inventor of a manipulation in delivery which bears his name (der Credésche Handgriff). The more important of his writings are "De Omphali Proptosi," "Clinical Lectures on Midwifery," "The Prussian Midwives and their Relation to the State and to Obstetrics," "The Prevention of Inflammation of the Eyes in New-born Infants," "Manual of Midwifery," and "Healthy and Sick Lying-in Women." Along with Speigelberg and Gusserow, he edited the "Contributions to Midwifery." He was born in Berlin in 1819, was appointed professor in Leipsic in 1856, and taught there till 1887.

Death of Professor Küssner.

Professor Küssner of Halle died last week, aged only thirty-nine. The themes of his writings are the accidental cardiac murmurs, scarlatinal nephritis, tuberculosis of the tongue and of the soft palate, tuberculosis due to inoculation, leucocythæmia, congenital constriction of the aorta, cirrhosis of the liver, disseminated acute myelitis, aphasia and athetosis, wandering pneumonia, the affection of the vagus in tabes dorsalis, local dropsy of uncertain origin, &c. His only book, the "Manual of Acute Infectious Diseases," was written by him conjointly with Richard Pott.

New Medical Publications.

"The Causes of Disease and How to Combat Them," by Dr. Krocker; "Man, or How our Bodies are Framed and How our Organs Work," by Dr. Ebenhoech; "Man in Health and in Sickness," by Professor Bock (fifteenth, much enlarged, edition); "The Hygiene of the Internal Organs," by Paul Montegazza; "The Comfort of the Patient," by Dr. Martin Mendelsohn (second edition); "Two Hundred Eye-Benefactions in Words and Pictures," by Dr. Katz, oculist (second edition); "A Short Compendium of the Diseases of Children and their Treatment;" "The Influenza Epidemic of 1889–1892," by Dr. Jacob Wolff. "Women's Work in War," by R. Behrends-Wirth; "The Quarantine Station, El Tor," by Dr. Paul Kaufmann; "The Penetration of Steam into Objects to be Disinfected," by H. Duncker.

The private lecturer, Dr. Thierfelder, has been appointed to succeed Professor Erwin von Esmarch as keeper of the Hygienic Museum here. The title of Sanitätsrath (Sanitary Councillor) has been conferred on Dr. Arthur Hartmann, and on Drs. Schwerin, Karl Kniger, and Julius Lazarus.

March 22nd.

FOOTBALL CASUALTIES.—Whilst playing a match on Saturday, at Bath, a young man fractured his clavicle. During a match on the 17th instant, at Worksop, between Kiveton Park and North Staveley, in the semi-final Sheffield Minor Cup, a Kiveton forward met with a severe accident, and on medical examination it was found he had "fractured his jaw."

[1] Soc. de Méd. Légale, March 14th, 1892.

Obituary.

THEOPHILUS REDWOOD, Ph.D., F.C.S.

THE death of Dr. Theophilus Redwood removes from amongst us one whose fruitful labours have exerted an abiding influence on the progress of pharmaceutical science during the present century. He was born in the year 1806 in Boverton, in Glamorganshire. Somewhat prematurely he was placed as assistant in an apothecary's shop in Cardiff, where for a period of three years he had the advantage of a practical, though rough and ready, introduction to pharmacy—of a kind, however, which was not congenial to his tastes. The school of pharmacy whence he obtained his early scientific knowledge was in the shop of John Bell and Co., in Oxford-street, to whom by chance he received a letter of introduction in 1823. He was then seventeen years of age, and he proceeded through every stage of pharmacy with admirable prudence until he reached the position of head dispenser in that firm. In 1830 he started on his own account in Crawford-street. In 1841 Jacob Bell commenced the organisation of the Pharmaceutical Society, and found in Mr. Redwood a thoughtful, painstaking, wise, and unobtrusive supporter of the enterprise. Mr. Redwood became Professor of Pharmacy when the Society was formed in the year 1842. In 1844 Professor Redwood was made director of the chemical laboratories, and two years afterwards was appointed to the amalgamated chair of Chemistry and Pharmacy. He held the office of secretary to the Chemical Society in conjunction with Sir Benjamin Brodie, and afterwards with Professor Odling. He became treasurer in 1870. Regarding his literary career it is only necessary to recall that when, in 1854, the Royal College of Physicians applied to the Council of the Pharmaceutical Society for assistance in remodelling the London Pharmacopœia, and a committee was appointed to this end, Professor Redwood was chosen as honorary secretary. In the autumn of 1859 the work was transferred and put into the hands of the Medical Council, when not only the London, but the united Pharmacopœia of London, Edinburgh, and Dublin was ordered to be produced, under the name of the British Pharmacopœia. In 1865 Professor Redwood was appointed by the Medical Council to edit a new edition of the British Pharmacopœia, which appeared in 1867; the edition with addenda which appeared in 1874, and again the edition of 1885. We possess, therefore, an official work, issued under joint medical and pharmaceutical authority, simple in its mode of construction and free from the confusion incident to the occurrence of formulæ of varied strength but of identical nomenclature.

In 1840 Professor Redwood was joint editor with Dr. Mohr of Coblentz of a Manual of Practical Pharmacy founded on the German text. The first edition appeared in 1847, the second in 1848, and the last in 1857. In 1872 he abridged Pereira's classical work on Materia Medica. He acted also as sub-editor to the *Pharmaceutical Journal*. For some time he was a contributor to the columns of THE LANCET of valuable papers on the mode of preparation and the qualities of various pharmaceutical products, a specially noteworthy communication being that on Nitrous Acid. He was engaged by the Government in 1856 on the subject of fermentation with Professor Graham and Professor Hofmann. He was public analyst for the county of Middlesex, for the districts of Holborn and St. Giles, and for the borough of Luton. Professor Redwood was one who had lived long and brought much profit by his experience and observation to the branch of medical knowledge with which he chiefly occupied himself. By his colleagues he was much esteemed for his sagacity, quickness of apprehension, and cordiality, by authors and editors for his literary ability, and by the medical profession he will always be remembered as one of the pioneers of the progress which medical science has made between the periods of his birth in 1806 and of his death in 1892. Marvellous has that progress been, but incapable of restraint, because the active promoters of it were not dreamers only, but men ready for action when the advantage of their profession demanded it. No pains did they spare, no obstacle or opposition daunted them. Dr. Theophilus Redwood was among them a worker well worthy to be named.

F. G. REED, M.D. ST. AND., &c.

WE regret to announce the death, in his seventy-fifth year, of Dr. F. G. Reed, at his residence in Hertford-street, Mayfair. Dr. Reed was an articled pupil of the late Mr. Luke (three times President of the Royal College of Surgeons), and received his medical education at the London Hospital. He originally intended to pursue the career of a consulting surgeon, but subsequently settled at Hertford, where for many years he had a very extensive practice among the leading county families and all classes, and attained a social position rarely equalled by a member of the profession in those days. From 1843 to 1856 he was physician to the Hertfordshire County Infirmary, and on his retirement the governors and residents in the neighbourhood presented him with a handsome testimonial in token of their personal esteem and of their appreciation of his services. In 1847 he obtained the Fellowship of the Royal College of Surgeons by examination, and in 1849 the degree of M.D. St. Andrews. In 1857 Dr. Reed became M.R.C.P., and removed to Hertford-street by the advice of his intimate friends, Sir Benjamin Brodie and Sir Wm. Fergusson. Here his professional skill, cheerful, sympathetic manner, and geniality secured him a wide but select connexion, until ill-health compelled him to retire about fifteen years ago. Dr. Reed was for many years a member of the Athenæum and Union Clubs and a Fellow of the Royal Medical and Chirurgical Society. He had been in failing health for some years, but his last illness was of very short duration. In 1866 he married, and he leaves a widow, as well as a daughter, a son, and an only sister, whose grief will be shared by all who knew him. Dr. Reed had the satisfaction of knowing that his son, in whom he took an intense interest, had, after a distinguished career at Harrow, recently obtained a Science Exhibition and a Science Scholarship at Trinity College, Cambridge, and a First-class in the Natural Science Tripos of last year, when he took his degree of B.A.

MEDICAL TRIAL.

COURT OF APPEAL.

PARTRIDGE *v.* THE GENERAL MEDICAL COUNCIL.

(Before the Master of the Rolls, Lord Justice Fry, and Lord Justice Lopes.)

AN application was made by the plaintiff, H. F. Partridge, for judgment, or for a new trial on appeal, from the judgment of Mr. Justice Denman, who entered judgment for the defendants at the trial before him with a special jury without taking the opinion of the jury. The action was for a *mandamus* to compel the General Medical Council to restore the name of the plaintiff to the Dental Register, from which it had been removed for infamous conduct in a professional respect in the year 1886. Mr. Justice Matthew and Mr. Justice A. L. Smith had in the year 1887 granted a *mandamus*. The name was, however, again removed in November, 1887. It is in respect of this erasure that the present action was brought. Mr. Willis, Q.C., and Mr. A. Beddall appeared for the appellant, and submitted that there was evidence to go to a jury to show that the Council had not properly exercised their powers under the Act. Mr. R. T. Reid, Q.C., and Mr. Muir Mackenzie, for the respondents, were not called upon.

The Court dismissed the appeal.

The Master of the Rolls, in giving judgment, said:—

In this case a person, whom I shall call a professional man, has been summoned to appear before a body of which he has become a member. An Act of Parliament has authorised him to be put upon a certain register, and thereby he obtains certain position and benefits. This Act says that if this body, who are a domestic forum, should find him guilty of any infamous or disgraceful conduct in a professional respect, they have a right to strike him off the register. They have done this here. Some time ago the plaintiff brought an action against this body for maliciously striking off his name, and he failed. Now he brings an action partly for a *mandamus* and partly for damages. The greater part of the argument has been directed to the first part of that claim. There is really no evidence on which anyone can say these gentlemen were actuated by anything like malice. As to the action for a *mandamus*, all we have to see is whether the body against whom the *mandamus* is asked had jurisdiction to do what they have done. It has been alleged

there was no evidence before them which would give them jurisdiction. The Council were acting under Section 13 of the Dentists Act, 1878. The plaintiff had, on obtaining his diploma in Ireland, promised not to advertise while holding that diploma. That body considered that they should act fairly by each other, and ought not to advertise. Just as in our profession, where all are rivals against each other, a barrister is not allowed to advertise his superior talents or that he will do his advocacy cheaper. I think if he did so I should consider it such disgraceful conduct that he ought to be immediately disbarred. No one need become a member of the dental profession unless he desires it. I say the authorities—this domestic tribunal—have a right to determine if it is within reason whether the conduct is or is not disgraceful professional conduct. In Ireland the defendant had promised not to advertise, and, having given that promise, according to his own evidence, he had spent more than £10,000 in advertising. This is his admission, and he continued to advertise after he had received a warning from the college in Dublin. This must be evidence of disgraceful conduct in a professional respect, and ample evidence upon which the Council might exercise jurisdiction. A *mandamus* cannot therefore go to them; they are not a court, and no rules are binding on them. Under Section 15 a committee is appointed. Fault cannot be found with them unless you can show that what they have done is contrary to natural justice. I agree it is contrary to natural justice to impose a penalty without letting a man know the accusation and without giving him an opportunity to meet it. It is said the Council did not give the plaintiff notice; but this is frivolous in this case, for a letter was written to the plaintiff telling him that his case would be considered on a particular day, and asking him to send any written defence he might desire or to attend in person, or both. He declines to attend, and we are told his reason was that there was no dispute as to the facts. Another point has been taken. It is said there was one person who was accuser and judge; it is against natural justice that an accuser should be also the judge. He must be both accuser and judge, and it has been argued that Mr. Macnamara was both these in the present case. When you look at the facts no one can truly say he was the accuser. The rule of law is well laid down in "Leeson *v.* General Medical Council" (43 Ch. D., at p. 384), as follows: "It must be in all cases a question of substance and of fact whether one of the judges has in truth also been an accuser." That is to distinguish it from mere technicalities. There is no evidence here that in fact Mr. Macnamara authorised or directed that this accusation should be brought. He received a letter from the secretary to the Council in England, and the inference is he handed it to the persons who acted upon it. As to being a judge, it is not shown that he was present at the Council at the time the report of the committee was dealt with. Something was also said about his being interested. Even if he acted in Ireland when the College decided to withdraw the diploma, and also in England, even on the same evidence this would not show that he was interested. As Mr. Justice Denman has pointed out, the judge who tried a case might also sit and hear the case in the Exchequer Chamber, and afterwards, perhaps, also in the House of Lords. On no one possible ground can the objections taken be maintained. This Court cannot interfere even if they thought the Council had come to the wrong conclusion. I cannot part with this case without saying that, so far from doubting as to whether they were right or wrong, I am perfectly certain they were right. The appeal must be dismissed with costs.

Lord Justice Fry and Lord Justice Lopes concurred.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates have passed in the respective subjects:—

Surgery.—A. D. Bensusan and W. T. B. Donelly, King's College Hospital; H. J. Forster, Westminster Hospital; R. T. Gilmour, N. F. Roth, and E. J. Steegmann, St. Mary's Hospital; J. D. Hessey, Middlesex Hospital; F. V. H. Mossman, Owens College; S. A. L. Sodipo, Newcastle-on-Tyne; R. S. Whitford, Charing-cross Hospital; J. Wood, St. Thomas's Hospital.

Medicine, Forensic Medicine, and Midwifery.—P. Goold, Cork; G. B. Hillman, Yorkshire College, Leeds; F. V. H. Mossman, Owens College.

Medicine and Forensic Medicine.—W. D. Akers, St. Mary's Hospital.

Medicine and Midwifery.—V. H. Barr and W. K. Steele, Guy's Hospital; J. Kyffin, London Hospital.

Medicine.—C. A. Davies, Owens College; E. E. Frazer, Guy's Hospital; G. Grace, Bristol.

Forensic Medicine and Midwifery.—C. O'Sullivan, London Hospital; W. A. Ward, Middlesex Hospital.

Midwifery.—J. Dulberg, Owens College; H. F. Ealand, St. Mary's Hospital; A. C. Fenn, St. Bartholomew's Hospital; W. Fowler, Durham University; W. M. Palmer, Charing-cross Hospital; R. A. Smith, Edinburgh.

The diploma of the Society, entitling the candidates to practise Medicine, Surgery, and Midwifery, has been granted to the following gentlemen:—

Messrs. Barr, Bensusan, Donelly, Dulberg, Forster, Goold, Hessey, Mossman, O'Sullivan, Palmer, Steegmann, and Ward.

The results of the examination in Arts qualifying for registration as medical student, held in the Hall of the Society on March 4th and 5th, have just been published. There were 75 candidates, and from the pass list it appears that 2 were placed in the first class and 15 in the second class, and 21 were certified as having passed in some subjects, thus completing for registration. The next examination will be held on June 3rd and 4th, and again on Sept. 2nd and 3rd, 1892.

CHELMSFORD UNION.—At a recent meeting of the guardians it was unanimously resolved to recommend the council to reappoint Dr. Thresh to tabulate the reports of medical officers, at the same salary as before—viz., £100 a year—his term of office having just about expired. The chairman held that the appointment of Dr. Thresh was one of the best things they had ever brought about.

LITERARY INTELLIGENCE.—Messrs. W. Lewis and Son send us a copy of the *édition de luxe* issued in celebration of the centenary of the *Bath Herald*, which occurred on March 5th. The history of the newspaper during the century of its existence is given in the sheet, which is prefaced by a coloured figure of a herald, and which is an excellent specimen of typography.

FEVER EPIDEMIC AT NEW GUINEA.—Reports have been received of a serious loss of life at German New Guinea through an epidemic of fever which had broken out there, the victims including the entire crews of two English vessels. The malady manifested itself chiefly at the port of Frederickshaven. It was thought that the fever was caused by the quantity of rotten coral and undergrowth which was brought to the surface when the land was being cultivated.

YELLOW FEVER.—The captain of the steamer *Colombo*, which arrived at Genoa a few days ago, from Rio de Janeiro, reported that forty-four cases of yellow fever occurred on board during the voyage, fifteen of which had terminated fatally. The vessel was consequently ordered to the quarantine station at the island of Asinara.—The Liverpool steamer *Umbria*, which arrived at Queenstown from Rio and St. Lucia on the 18th inst., had two of the crew fatally attacked with the fever during the voyage.

THE DUFFERIN FUND.—The Viceroy, Lord Lansdowne, presided at the seventh annual meeting of the Countess of Dufferin Fund, held on the 4th ult., at the Town Hall, Calcutta, and, in the absence, from indisposition, of Lady Lansdowne, performed the ceremony of unveiling the portrait of Lady Dufferin. Appropriate tributes were paid by several speakers to her ladyship's beneficent work in India. The annual report was very satisfactory, and was adopted. The number of patients treated during the past year by the Dufferin Institutions amounted to 466,000. Pupils under medical tuition now number 222. As regards finance, the total invested funds altogether reached fourteen and a half lakhs.

LADY ROBERTS' FUND.—But for this important fund not a single lady nurse would be attached to any British soldiers' hospital in India, and the army in India owes a deep debt of gratitude to Lady Roberts, who for the last six years has laboured most earnestly to establish "Homes in the Hills" for lady nurses to recuperate during the hot weather in the plains. Lady Roberts appeals for additional funds to enable the work to be completed when the time comes for her to leave India. The Maharaja of Bettiah has already given a donation of Rs. 5000 towards this end. Lady Roberts is anxious to invest a sufficiently large sum of money to adequately maintain these Homes and Officers' Hospitals when she leaves India. She has already invested Rs. 130,000, but Rs. 250,000 are necessary to enable her to leave the work independent. To complete the work Lady Roberts would like to establish a Home and Officers' Hospital at Naini Tal or Ranikhet.

ROYAL METEOROLOGICAL SOCIETY.—Dr. C. Theodore Williams, the president, delivered an able and interesting address on the "Value of Meteorological Instruments in the Selection of Health Resorts" at a meeting of the Society held last week. He drew attention to thermometers, maximum and minimum, as the foundation stone on which medical climatology rests, and instanced effects of extreme cold, or of heat, on the human organism. He stated that many health resorts owe their reputation almost solely to their shelter from cold winds, and pointed out the advantage of climate in various foreign localities. He referred to the weak points of the South of France climate, but summed up the Riviera winter climate as being, as a whole, clear, bright, and dry, with fog and mist practically unknown. After the delivery of this address the meeting was adjourned in order to allow the Fellows and their friends an opportunity to inspect the exhibition of instruments relating to climatology, which had been arranged at the Institution of Civil Engineers, in Great George-street.

EYE INFIRMARY, BATH.—This institution is nearly the oldest of the medical charities in Bath, and has continued for eighty years to bestow its benefits on the needy citizen and on the adjacent population. More cases were treated during the past than the preceding year. In no previous year has the number of in-patients been exceeded. The out-patients numbered 1733, a slight increase on 1890. The invested funds amounted to £4343 12*s.* 11*d.*

THE METROPOLITAN WATER-SUPPLY.—On Wednesday the first meeting of the Royal Commissioners appointed to consider the question of the water-supply for the metropolis was held at the office of the Board of Trade. Lord Balfour of Burleigh (the chairman) presided, the other Commissioners present being Sir George Barclay Bruce, C.E., Professor James Dewar, F.R.S., Mr. Henry Hill, Mr. James Mansergh, and Dr. William Ogle, with Mr. Francis Gaskell, secretary. The preliminary procedure was discussed, and the Commission adjourned until Wednesday next.

ST. MARY'S HOSPITAL, PADDINGTON.—The report for 1891 is in most respects satisfactory. The number of in-patients and of maternity patients had again increased. The former were 44 and the latter 206, higher than in any previous year. The year's ordinary expenditure shows an excess of £451. The Prince and Princess of Wales, it was stated, would lay the foundation stone of the new wing in October, which will be called, by permission, the "Clarence Wing." For the first time for many years the charity is greatly in debt to the bankers.

DEATH FROM ANTHRAX.—A case of death from anthrax having some interest from a causal point of view recently occurred at Greenwich. At the Guarantee Manure Works a labourer who was employed in lifting bags of manure met with a slight abrasion of his arm. The limb began to swell, and the patient died on the fourth day after the accident, in the Seamen's Hospital. At the inquest evidence of anthrax was given, and the coroner's jury returned a verdict of "Death from anthrax from working in a manure factory."

THE REDDITCH NURSING ASSOCIATION: PROPOSED COTTAGE HOSPITAL.—The annual meeting of this Association was held on the 17th inst. The financial position was satisfactory, and the report was adopted. Mrs. Kenrick, of Birmingham, delivered an interesting address upon the objects and scope of the Association, and Councillor S. Allcock, in moving a vote of thanks to Mrs. Kenrick, urged the desirability of calling a public meeting to consider the question of erecting a cottage hospital for the town. He had already offered £500, if it was decided to build such a hospital, and would give a further sum of £500 towards its endowment. The meeting was also reminded that Mrs. Thomas Bartleet had promised £500 towards the proposed institution.

SANITARY INSPECTORS' ASSOCIATION.—The ninth annual dinner of this Association took place on Saturday at the First Avenue Hotel, Holborn. Dr. B. W. Richardson presided. In proposing the toast of the evening, he stated that there were many preventable diseases which were caused by ignorance and perversity, bad manners, bad social customs, and by negligence. Towards these diseases the Association turned its attention. He congratulated the Association on having obtained a charter of incorporation. They must have a school connected with the Association—a school of health, in which the laws of health and of all that conduced to make their labours useful would be taught.

GENERAL HOSPITAL, BIRMINGHAM.—The report for the past year, so far as the ordinary work of the hospital was concerned, was very satisfactory. The number, both of in- and out-patients, showed an increase on the two preceding years, a result which had only been possible from the accommodation afforded by the Jaffray Branch Hospital in treating some of the cases, and which had proved a valuable auxiliary to the older institution. The musical festival had contributed to the funds £5516. The year's total expenditure was £14,500; no less than £12,000 was disbursed in aiding free cases received into the hospital, without tickets. The plans for the new hospital had been selected, the amount raised for the new building being £88,917.

CITY OF LONDON SCHOOL.—Last week, at a meeting of the Court of Common Council, held at the Guildhall, the Town Clerk laid before the Court notice of a legacy of £300 from the late Dr. H. E. Price of Hove, to found a prize in the City of London School (in which he was formerly educated), under the name of "The Price Prize."

DISEASED MEAT.—A jobbing butcher and a dealer, both of Toftwood, East Dereham, Norfolk, were last week fined at the Guildhall Police-court, London, £100, or in default three months' imprisonment, and £20, or a month's imprisonment, respectively, for exposing for sale in the Central Meat Market the carcases of four sheep which were unfit for human food. This was the first case under the new Act, which gives additional powers to the magistrates.

LOUGHBOROUGH GENERAL HOSPITAL AND DISPENSARY.—The annual report for 1891 states that the returns for the year exhibit a great similarity to those of the previous twelve months. Although there was a slight decrease in the number of patients admitted, the average for the two years was practically identical. The expenditure had again exceeded the income, and additional financial support was urgently needed. The St. John Ambulance Association had established itself in the town, and had applied to the committee for assistance in the purchase of their ambulance litter. The litter was now in the hospital, and available in cases of accident.

NORFOLK AND NORWICH HOSPITAL.—The annual report for 1891, just circulated, states that the total amount received during the year (exclusive of legacies and special items) was £7326 8*s.* 8*d.*, while the ordinary expenditure (exclusive of special items) was £8771 8*s.*, an excess of £1445. Fees for nurses' services amounted to £287 11*s.* There were 137 more in-patients than the previous year, and also a considerable addition to the number of out-patients. The building of the convalescent home, so munificently offered by Mr. R. E. Fletcher as a gift to the hospital, and which the president, the Earl of Leicester, has generously offered to endow, is making satisfactory progress, and will, it is hoped, be ready for occupation during the present year.

CHILDREN'S HOSPITAL, SHEFFIELD.—The full average extent of work done in this institution during the past year was well maintained. The expenditure had exceeded the income by a comparatively small amount. But the capital account was increased by £324. During the year twenty-six cots had been supported by endowments, or cot subscriptions. There was accommodation for thirty-two cots in all. The board had been considering a scheme for the establishment of a branch hospital at the east end of the town. A Sheffield gentleman, who did not wish his name to be mentioned, had intimated his intention to settle a large amount upon certain trusts for the purpose of establishing such a branch. The property would produce £1000 per annum. The necessary legal transfer to the trustees appointed was completed in October last, but the gift cannot by law take legal effect until twelve months after that date.

GENERAL PRACTITIONERS' ALLIANCE.—At a meeting of the Council of this Society, held on Monday last, the subject of the proposed Gresham University was discussed, and the following resolution was unanimously carried and the President instructed to forward a copy of the same to the Lord President of the Privy Council:—"That the Council of the General Practitioners' Alliance have heard with pleasure that Her Majesty's Government have determined to refer the Draft Charter of the Gresham University to a Royal Commission, and would respectfully urge upon the Lord President of the Privy Council the importance of nominating one or more medical men in general practice to serve on the said Commission, in order that the 22,000 general practitioners in the United Kingdom whose interests will be vitally affected by the proposed measure may be directly represented." The proposed Royal Charter to the Royal British Nurses' Association was laid before the Council, and after due consideration it was resolved to hold a general meeting of members of the Alliance on April 12th next, for the purpose of discussing what action, if any, shall be taken by the Alliance in the matter.

ST. JOHN AMBULANCE ASSOCIATION.—At a special military class held at the Portsmouth centre of the St. John Ambulance Association, the lecturer being Surgeon-Captain C. R. Kilkelly, Medical Staff, and the Examiner Fleet Surgeon H. C. Woods, R.N., of the Royal Yacht, fifty-three candidates came up for examination and fifty-one were awarded certificates.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL. This charity has again made satisfactory progress during the past year; 301 patients were admitted, and 1776 out-patients were attended at the dispensary. The year's expenditure was slightly less than the previous year, and the receipts £128 3s. 10d. more. The erection of the new buildings, to form the new wing, had been much delayed by unexpected difficulties in laying the foundations, but the buildings are now being actively pressed forward. The Duke of Devonshire has been elected president in succession to his father, the late Duke.

INSANITARY PEABODY DWELLINGS.—Last week the Peabody Trustees were summoned at the Westminster Police Court, at the instance of the Vestry of St. Margaret and St. John, Westminster, for failing to comply with a requisition to remove existing inlets to a dust-shoot. The dust-shoot ran through the building from top to basement. From these inlets, when used, objectionable particles and effluvia were blown about the building. A letter was read from the trustees offering to make substantial alterations to meet the objection. The magistrate said the difficulty was obviously due to an inherent defect in building, and adjourned the case, pending a satisfactory arrangement being made.

BEQUESTS AND DONATIONS TO HOSPITALS.—The late Mr. Charles Ravenhill, of Bashey House, Streatham Hill, bequeathed £1000 each to the London Hospital, St. Bartholomew's Hospital, Brompton Hospital for Consumption, and the Samaritan Free Hospital.—Mr. Samuel F. Harrison, late of Wakefield, bequeathed £500 to the Convalescent Home at Lupset. The residue of the deceased's estate is for the benefit of the Clayton Hospital, Wakefield.—"A Lady" has sent a donation of 100 guineas to the British Home for Incurables (Offices, Cheapside, London).—Mrs. Katharine Bright, late of Stocks House, Tring, bequeathed £1000 to the West Herts Infirmary.—The late Mr. Joseph Johnstone, of Carlisle-place, Manningham, bequeathed (free of legacy duty) £500 to the Bradford Infirmary, and £250 each to the Eye and Ear Hospital and the Bradford Children's Hospital.—Mrs. Emma M. Evans, late of Lyndhurst-gardens, Hampstead, bequeathed £200 to the Royal Hospital for Incurables.—The late Mr. James Graham, of Holland Park, Kensington, bequeathed (free of legacy duty) £3000 to the London Hospital, Whitechapel-road, £2000 each to the West London Hospital, Hammersmith-road, St. Mary's Hospital, Paddington, and the Glasgow Royal Infirmary, and £1000 to the National Hospital for the Paralysed and Epileptic, Bloomsbury. The Goldsmiths' Livery Company has made a grant of £1000 to the London Hospital.

MEDICAL NOTES IN PARLIAMENT.

Sanitary Order at Gibraltar.

IN the House of Commons, on Friday, the 18th inst., in answer to Mr. Causton, Baron H. de Worms said: By the Sanitary Order Amendment Order (Gibraltar), 1891, the number of members of the Board of Sanitary Commissioners of Gibraltar representing the ratepayers and inhabitants has been diminished from eight to four. The order was put in force without notice; but the reasons which rendered the measure necessary have since been published in Gibraltar, and it is not proposed to withdraw the order.

The Gresham University.

On Monday Lord A. Hill, Comptroller of the Household, brought up the answer of Her Majesty the Queen to the Address of the House with respect to the proposed Charter. Her Majesty intimated that she would, for the present, withhold her consent to the scheme, in accordance with the desire of the House.

The Sanitary Condition of Santos.

Mr. J. W. Lowther, in reply to Mr. Duff, said that instructions were sent to Her Majesty's Minister at Rio in October and in February to bring this matter to the attention of the Brazilian Government, which was accordingly done. Mr. Wyndham was further instructed on the 9th inst. to press the matter upon their attention. The insanitary condition of the port of Santos has been made known to the shipping community by the Board of Trade, by notices in the *Board of Trade Journal*, by means of a notice posted in all the shipping offices, and in other ways.

Insanitary Barracks.

Mr. E. Stanhope informed the House that the amount now being expended on barracks, both out of loan funds and out of annual estimates, though it would not suffice to rebuild all the barracks, would practically remove the evils specially brought to his notice.

Fatal Vaccinations.

Mr. Ritchie, answering Mr. Channing, said his attention had been called to an inquest in the case of the child said to have died from the result of vaccination. The Local Government Board had informed the Royal Commission of the certificate which had been received. He learned that the Commissioners had no knowledge of the case until after the inquest had been held, and it was impossible to have a medical examination of the body. They were, however, otherwise inquiring into the case.

The Case of Surgeon-Major Briggs.

In the House of Commons, on Tuesday, the 22nd inst., Dr. Farquharson asked the Secretary of State for War whether he had further considered the case of Surgeon-Major Briggs, of the Army Medical Staff, with the view of his being reinstated in the position which he would now occupy in the service if he had not retired.—Mr. E. Stanhope: Yes, sir; I have further considered the case, and I am of opinion that Surgeon-Major Briggs should not suffer any loss as regards position or promotion in consequence of an act which any gentleman was bound to perform, and which he performed under pressure which no one could have resisted. Dr. Briggs will therefore be restored to the seniority he held before retirement.

Protection against Accidents at the London Docks.

In answer to Mr. Johnston, Sir M. Hicks-Beach said: I directed Captain Pitman (my chief superintendent at Poplar) to place himself in communication with the dock authorities, and I am happy to say that they willingly agreed to erect stanchions and chains at a number of places agreed upon. Captain Pitman has now reported to me that the directors have made every effort to provide for the safety of the public by adopting all reasonable precautions. I understand that the London and India Docks Joint Committee alone have ordered no less than seven miles and a half of chains and standards.

The Treatment of City Refuse.

On Thursday, the 24th inst., in the House of Commons, Mr. Ritchie, answering a question by Mr. Pickersgill, said that the Local Government Board had no information as to the intention of the Strand District Board to erect a destructor on the Surrey side of the river, near Waterloo Bridge. The matter was not one in which the Local Government Board had any jurisdiction. He might say that a clause was inserted in the Public Health Act of last year to meet the case of a local authority which used premises for the treatment or disposal of refuse in such a way as to be a nuisance or a danger, or injurious to health.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at Midnight on March 22nd, 1892.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total	
Eastern Hospital	194*	55	..	20	..	269	442
North-Western Hospital	191	36	..	10	2	239	411
Western ,,	104	27	..	3	2	136	226
South-Western ,,	194	37	..	12	..	243	350
South-Eastern ,,	206*	12	..	22	3	243	426
Northern ,,	319	19	..	8	...	346	480
Totals	1208	206	..	75	7	1496	2333

* Infant with mother.

SMALL-POX.—*Atlas* hospital ship, 25.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

ANDREW, A., L.R.C.P., L.M. Irel., has been appointed Medical Officer for the Glossop Sanitary District.

BERKELEY, G. H. A.C., M.R.C.S., L.R.C.P., has been appointed House Physician to the Middlesex Hospital.

BOLUS, H. B., M.R.C.S., L.R.C.P., has been appointed Assistant House Physician to Guy's Hospital.

CHARNLEY, WM., M.D. Camb., M.R.C.S., has been appointed Honorary Oculist to the South Shropshire Infirmary.

DAVIES, T. B. P., M.B., B.S. Lond., has been appointed House Surgeon to Guy's Hospital.

DURHAM, H. E., M.B., B.C. Cantab., has been appointed Assistant House Surgeon to Guy's Hospital.

FISHER, W. H., M.B., B.C. Cantab., has been appointed Assistant House Physician to Guy's Hospital.

HERN, GEORGE, M.R.C.S., L.R.C.P., L.D.S. Eng., has been appointed Demonstrator to the Dental Hospital of London, Leicester-square.

HEYWOOD, CHAS. CHRISTOPHER, M.A., M.B. Cantab., M.R.C.S., has been appointed House Surgeon to the Salford Royal Hospital, vice R. E. Lord, M.D. Lond., resigned.

HICKS, CHAS., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Sharnbrook Sanitary District of the Bedford Union, vice Banks, resigned.

HIGGINSON, J. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Aldborough Sanitary District of the Erpingham Union, vice Heasman, resigned.

HOCKRIDGE, T. G., M.D., C.M., McGill, Montreal, M.C.P.S. Ont., M.R.C.S., has been reappointed a District Medical Officer of the Holborn Union.

HOLLINGS, C. E., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been reappointed Medical Officer of Health for Calverley.

HOUNSELL, F. C. W., B.A. Camb., M.R.C.S., has been appointed Medical Officer for the Chudleigh Sanitary District of the Newton Abbott Union, vice Wade, resigned.

IRELAND, A., M.B., C.M. Aberd., has been appointed Medical Officer to the Cape Colony Railway.

LANSDOWN, F. P., M.R.C.S., has been reappointed Senior Surgeon to the Bristol General Hospital.

MACKINTOSH, ANGUS, M.D., L.F.P.S. Glasg., has been reappointed Medical Officer for the Dronfield and Clay Lane Urban Sanitary Districts.

MACLROD, A. L., M.B., C.M. Glasg., has been appointed Junior House Surgeon to the Macclesfield Infirmary, vice A. J. Beesley, resigned.

MARTIN, SIDNEY, M.D., F.R.C.P., has been appointed Assistant Physician to the Hospital for Consumption, Brompton.

MORRIS, D. W., L.R.C.P. Irel., M.R.C.S., has been appointed Medical Officer for the Mallwyd Sanitary District of the Dolgelly Union, vice Williams.

MORTLOCK, R. H., M.B., C.M. Edin., has been appointed Medical Officer for the Caldbeck Sanitary District of the Wigton Union.

MURDOCH, W. H., M.D., has been appointed Physician to Fulwood Convalescent Home for Children and Surgeon to Dinglemount Home for Epileptics.

NEWBY, GERVASE E., M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon to the Salford Royal Hospital, vice C. C. Heywood.

PEMBERTON, OLIVER, F.R.C.S. Eng., F.R.C.S. Edin., has been appointed Honorary Consulting Surgeon to the General Hospital, Birmingham.

RAKE, A. T., M.B., B.S. Lond., has been appointed Assistant House Surgeon to Guy's Hospital.

RIDEAL, SAMUEL, D.Sc. Lond., F.I.C., Lecturer on Chemistry in St. George's Hospital Medical School, has been appointed Public Analyst to the Lewisham District Board of Works.

SHORTT, WILLIAM RUSHTON, M.B., B.S., L.R.C.P. Lond., M.R.C.S., has been appointed Third Assistant Medical Officer to the Durham County Asylum.

SLATER, H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Northam Sanitary District of the Bideford Union.

SMART, DAVID, M.B., C.M. Edin., B.Sc. (Pub. Health), has been appointed Visiting Medical Officer to the Toxteth Board of Guardians.

SMITH, GEO., M.B., C.M. Edin., has been reappointed Medical Officer for the Gray's Sanitary District of the Henley Union.

SPENCER, T. E., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Weston-super-Mare Hospital.

SPROTT, A., M.B., C.M. Glasg., has been appointed Medical Officer for the Potterdale Sanitary District of the West Ward Union.

STUART, ROBERT, M.R.C.S., L.R.C.P. Lond., has been appointed Fourth Assistant Medical Officer to the Durham County Asylum.

TOMPSETT, R. H., L.R.C.P. Lond., M.R.C.S., has been appointed Second Assistant Medical Officer for the Fulham-road Workhouse and the Infirmary, St. George's Union.

TREND, THEOPHILUS WM., M.D. St. And., M.R.C.P. Edin., has been appointed Physician to the Royal South Hants Infirmary, Southampton, vice Geo. Scott, M.D. Edin., deceased.

TURNER, F. M., M.B., B.C. Cantab., has been appointed House Physician to Guy's Hospital.

WILLOUGHBY, W. G., M.D. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer of Health for the Plympton St. Mary Rural Sanitary District, vice Adkins.

WOOD, F. S., M.R.C.S., L.R.C.P., has been appointed House Surgeon to Guy's Hospital.

YOUNG, J., M.B., B.S. Lond., has been appointed House Physician to Guy's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BELGRAVE HOSPITAL FOR CHILDREN, 79, Gloucester-street, S.W.—House Surgeon. Board, lodging, fuel, and light provided.

BETHLEM HOSPITAL.—Two Resident Clinical Assistants. (Apply to the Clerk, Bridewell Hospital, New Bridge-street, E.C.)

BOARD OF WORKS, Holborn District.—Public Analyst for the district. Salary £100 a year. (Apply to Mr. Hall, Clerk's Offices, Holborn Town Hall, Gray's-inn-road, London.)

CHARING-CROSS HOSPITAL, London.—Pathologist and Curator. Salary £100 per annum.

CLAYTON HOSPITAL AND WAKEFIELD DISPENSARY, Wakefield.—House Surgeon. Salary £90 per annum, with board, lodging, and washing.

DERBYSHIRE ROYAL INFIRMARY.—Resident Assistant House Surgeon for six months. Salary for the six months £10. Separate apartments, board, and washing provided.

GENERAL DISPENSARY, Nottingham.—Resident Clinical Assistant. Salary £60 for six months, with rooms and attendance.

GENERAL HOSPITAL, Nottingham.—Assistant House Physician for six months. Board, lodging, and washing in the hospital provided.

LONDON HOSPITAL, Whitechapel-road, E.—Surgical Registrarship. Salary at the rate of £100 a year.

LONDON LOCK HOSPITAL AND ASYLUM, Harrow-road, W., and 91, Dean-street, Soho, W.—Surgeon to In-patients at Harrow-road.

LOW MOOR COMPANY.—Resident Medical Officer. Salary £300, inclusive of all expenses, dispensing, drugs, &c. (Applications, by letter only, to the Chairman, Low Moor Iron Works, Bradford.)

MANCHESTER SOUTHERN AND MATERNITY HOSPITAL.—Resident House Surgeon. Honorarium at the rate of £75 per annum.

NORTH RIDING ASYLUM, Clifton, York.—Second Assistant Medical Officer. Salary £100 a year. Board, apartments, washing, and attendance.

ROTHERHAM HOSPITAL.—Assistant to House Surgeon for six months. Rooms, commons, and washing provided for in the hospital in lieu of salary.

ROYAL ORTHOPÆDIC HOSPITAL, 297, Oxford-street, London.—Resident House Surgeon and Apothecary. Salary £100 per annum, with partial board.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—Honorary Assistant House Surgeon.

ST. GEORGE'S AND ST. JAMES'S DISPENSARY, 60, King-street, Regent-street, W.—Physician.

TAUNTON AND SOMERSET HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing in the hospital.

TEIGNMOUTH, DAWLISH, AND NEWTON INFIRMARY, DISPENSARY, AND CONVALESCENT HOME.—House Surgeon (to act also as Secretary). Salary £40, with board, lodging, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea.—Honorary Medical Officer (non-resident) to the New Convalescent Branch at Broadstairs.

WALSALL HOSPITAL.—House Surgeon. Salary £100 per annum, with board &c.

Births, Marriages, and Deaths.

BIRTHS.

BACK.—On March 17th, at Reepham, Norfolk, the wife of Herbert H. Back, M.B. Lond., M.R.C.S., of a son.

CREED.—On March 17th, at Rathkeale House, Girdlers-road, West Kensington, the wife of Charles Philip Creed, M.R.C.S., L.R.C.P., of a son.

GRAY.—On March 18th, at Brigg, Lincolnshire, the wife of C. E. Gray, B.A., M.D., late Surgeon R.N. and Physician to the Melbourne Hospital, of a son.

POUND.—On March 18th, at Odiham, Hants, the wife of Clement Pound, L.R.C.P. Lond. &c., of a daughter.

RICHMOND.—On March 19th, at Greenhithe, Kent, the wife of Sylvester Richmond, M.D., of a daughter.

SCOTT.—On March 14th, at Glendearg, Station-road, Watford, the wife of W. Duncan Scott, M.D., of a son.

MARRIAGES.

CLEMOW—FORD.—On March 15th, at Whixley, by the Rev. F. S. Hilliard, Vicar of St. Andrew's, West Kensington, Arthur H. Weiss Clemow, M.D., of 1, Comeragh-road, West Kensington, to Blanche Graham, third daughter of John Ford, Tancred, Whixley, in the county of York.

LOW—CALDER.—On March 4th, by special licence, at Brenthamville, Knock, by the Rev. Professor Heron, D.D., assisted by the Rev. James Hunter, M.A., Charles W. Low, M.B., F.C.S., Stowmarket, son of Robert Low, Powis Lodge, Vicarage Park, London, to Charlotte Elizabeth, daughter of the late John M. Calder, Belfast. No cards.

SYMONDS—TYRRELL.—On Feb. 2nd, at Kimberley, South Africa, Henry Symonds, M.B. Lond., son of Daniel Symonds, of Dorchester, Dorset, to Friede, daughter of Col. Tyrrell (late Indian Army), of East London, Cape Colony.

WIBLIN—SAUNDERS.—On March 16th, at Christ Church, Lancaster-gate, John Wiblin, Esq., F.R.C.S., of The Hermitage, Clewer, Windsor, to Augusta Margaret Saunders, youngest daughter of the late Andrew Saunders, Esq., Downes House, Eling, Hants.

DEATHS.

ANDERSON.—On March 17th, at 2, Harley-street, W., Mary Margaret, wife of William Anderson, F.R.C.S., aged 40 years.

BONNYMAN.—On March 17th, at Aldridge-road Villas, Bayswater, James Bonnyman, M.D.

DAVIS.—On March 19th, at North Bridge-street, Sunderland, John Davis, M.R.C.S., aged 64.

MEADOWCROFT.—On March 12th, at Church-street, Colchester, William Meadowcroft, M.R.C.S., aged 84.

TIDY.—On March 15th, at Mandeville-place, W., Charles Meymott Tidy, M.B., Professor of Chemistry, London Hospital Medical College, aged 49.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births Marriages, and Deaths.

Medical Diary for the ensuing Week.

Monday, March 28.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. Amand Routh: Rapid Dilatation of the Uterus for Diagnosis and Treatment in cases of Uterine Hæmorrhage (with cases).

Tuesday, March 29.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Professor V. Horsley: The Brain.

THE QUEEN'S COLLEGE, BIRMINGHAM.—4 P.M. Dr. Arthur Foxwell: The Condition and Treatment of the Vascular System in Chlorosis and other Debilitated States. (Ingleby Lecture.)

ROYAL COLLEGE OF PHYSICIANS (Examination Hall, Victoria Embankment).—5 P.M. Dr. Sidney Martin: Chemical Pathology of Diphtheria compared with that of Anthrax, Infective Endocarditis, and Tetanus. (Third Goulstonian Lecture.)

Wednesday, March 30.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.

CHARING-CROSS HOSTITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, March 31.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

ROYAL INSTITUTION.—3 P.M. Dr. B. A. Whitelegge: Epidemic Waves.

CHELSEA HOSPITAL FOR WOMEN.—5 P.M. Dr. F. F. Schacht: Minor Manipulations of Gynæcology.

ROYAL COLLEGE OF PHYSICIANS (Examination Hall, Victoria Embankment).—5 P.M. Dr. Pye-Smith: Certain Points in the Etiology of Disease. (First Lumleian Lecture.)

Friday, April 1.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich).—8 P.M. Discussion on Influenza, to be opened by Dr. Geo. Newton Pitt.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—8 P.M. Pathological Specimens by Dr. Ball and Mr. Dunn.—Dr. W. P. Herringham: Lumbago and Sciatica.—Dr. Symons Eccles: Sciatica.

ROYAL INSTITUTION.—9 P.M. Prof. Oliver Lodge: The Motion of the Ether near the Earth.

Saturday, April 2.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

ROYAL INSTITUTION.—3 P.M. Prof. J. F. Bridge: Dramatic Music.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 24th, 1892.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Mar. 18	30·36	S.E.	49	47	101	63	46	—	Bright
,, 19	30·25	E.	44	42	93	57	40	—	Bright
,, 20	30·19	N.E.	45	41	94	52	37	..	Bright
,, 21	30·36	E.	36	35	79	54	34	..	Hazy
,, 22	30·37	N.E.	41	40	52	43	35	·15	Raining
,, 23	30·51	E.	41	39	67	50	35	·10	Overcast
,, 24	30·32	E.	42	41	52	45	40	·03	Overcast

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

CHAPPED HANDS.

Mr. Edgar Duke (St. Leonards) recommends for this affection the application of equal parts of glycerine, sulphurous acid, and rose-water several times a day. It will be found, he says, that the "chaps" will soon heal; and, as an additional aid, "Penton" might, if necessary, advise his patient to wear white kid gloves at night after using the liniment.

Dr. Thurefield recommends one part of the glycerole of subacetate of lead with seven of glycerine, to be used with indiarubber gloves, so as to keep up free moisture of the skin.

F. R. C. (Dublin) writes: "If 'Penton' has not yet used it, he might try 'luna-creolin.' Its name indicates its composition. I have had it from Messrs. Burroughs, Wellcome, and Co. It may be used freely, especially in the evening, and chamois-leather gloves should be worn at night."

Cyclops suggests that "Penton" should try the following:—Liquor plumbi diacetatis, ʒi.; creta præparata et ol. olivæ, q.s. of each to make an ounce of the consistence of an ointment. The hands to be well smeared with this each night, and a pair of soft gloves worn. If tried, will "Penton" communicate results?

A correspondent writes that "Penton" might find holding the chapped hands over the fumes of sulphur twice daily of use. Our correspondent has known it to answer well in obstinate cases.

A QUESTION OF ETHICS.

To the Editors of THE LANCET.

SIRS,—On opening my daily paper on Friday, March 18th, I noticed nearly a column was occupied with an extract from one of your medical contemporaries concerning a person of unhappy notoriety. I was not surprised at this; but I was astonished to see details given on the authority of the medical attendants in the case. That there should be no room for mistake the names and addresses of these medical men are published in full. Now, this constitutes a breach of confidence, and when I was in active practice would have been considered professional conduct the reverse of graceful. Has the code of honour been revised?

I am, Sirs, yours obediently,

March 21st, 1892. ONE OF THE OLDEN TIME.

REFUSAL TO PAY NOTIFICATION FEES.

Dr. J. L. Kerr.—Under the Notification Act we apprehend that the local authority is bound to pay the fee for notifying the specified diseases in every case, and could be compelled to do so at law. The medical officer of health has no authority as a taxing master.

THE DUBLIN CIVIL SERVICE MEDICAL AID ASSOCIATION.

Mr. J. J. Murphy has kindly forwarded to us a letter correcting our allusion to the terms of membership of the Association, and showing that the married members' subscriptions are at the rate of £1 a year and those of unmarried members at the rate of 10s. Our mistake was in regarding quarterly subscriptions as annual ones. We still think the terms low; £1 a year for attendance on a member of the civil service, on his wife (barring midwifery) and children, and any other relatives permanently residing in such member's house, together with their domestic servants, is, or strikes us as, very inadequate remuneration. We have no doubt the civil servants in Dublin get good medical treatment, but we deny that the pay for it is "reasonable." We are much obliged to Mr. Murphy for his note, and to the secretary for a copy of the rules.

Scapula.—The services are so peculiar and exceptional that we have a difficulty in appraising them. Our correspondent will do that best himself. His actual charge is not too much, but it looks high. And the service to his patient is withal so delicate that he would do well, while maintaining its reasonableness, to be ready to argue the sum. Fees for such duties should always be a matter of understanding beforehand. For ourselves, we should be very unwilling to undertake such duties until the law shall enable them to be discharged within the bounds of the United Kingdom.

E. L.—We have no reason to suppose that injury would result from the use of such a writing implement.

PERFECT COMBUSTION AND SMOKE PREVENTION.

To the Editors of THE LANCET.

SIRS,—I have been much interested in reading the article in THE LANCET on the subject of perfect combustion and smoke prevention. If an Act could be passed under which all new stoves would be required to pass a certain standard of smoke combustion, it would soon lead to further inventions and improvements, and the old stoves now in use in London would be to a great extent replaced, more especially when the saving in cost is brought home to the minds of the householders. A good combustion stove would be a literal godsend to scores of large buildings where the flues draw badly, and can only be imperfectly swept from the top. It would be difficult to enumerate all the advantages likely to arise from even a partial consumption of smoke. It is highly probable that we suffer from a far more dangerous evil than that of smoke brought down by the fog—viz., the foul air proceeding from the innumerable ventilation pipes from house drainage; and in connexion with this it has been suggested that the climax in the late scourge of influenza was reached at the time of the late fogs, and that the horrible atmosphere we then breathed was tainted by the gases proceeding from the ventilation pipes. These ventilation pipes are, of course, essential under the present system; but the time, I think, will, and must, come when the entire system of sewers will be ventilated by tall shafts and furnaces in central positions, through which the foul air will be drawn, and its deadly properties, including microbes &c., be consumed.

I am, Sirs, yours faithfully,

Bedford-street, W.C., March 8th, 1892. JOHN T. WOODARD.

A GRIEVANCE OF TITLE.

New L.S.A.—We are constantly receiving letters from the new class of L.S.A. complaining of the inadequacy of the title Apothecary, and demanding one that expresses the fact of their full qualification in Medicine, Surgery, and Midwifery. We entirely sympathise with this feeling. The nature of the education and examination for the L.S.A. has been altered and enlarged by the Act of 1886, and there should be a corresponding alteration and enlargement of title. But it will never be procured unless the Society and its Licentiates bestir themselves. Let a committee be organised to press the grievance till it is removed.

Mr. Woodcock.—The production of the Clausen stove has been delayed by the somewhat sudden death of the inventor. It is to be hoped that so useful and economical an appliance will before long be generally introduced.

Mr. T. Johnston.—We think it desirable to wait for the reply to our correspondent's complaint, which seems a very reasonable one.

A QUERY.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me whether there is any institution where a little boy three years old, who has lost both arms, can be educated, and taught how to use his feet?

I am, Sirs, yours faithfully,

March 17th, 1892. HOUSE SURGEON.

THE OPENING OF PAROCHIAL HOSPITALS TO STUDENTS.

DR. CAMPBELL BLACK, in the *Glasgow Herald*, advocates the opening of parochial hospitals to students, and the much wider distribution in the profession of hospital appointments.

PROFESSIONAL FEES AMONG THE ISRAELITES.

ON this subject there is a curious document, of which the Hebrew original is lost. It is the "Ecclesiasticus" of the Son of Sirach, Jesus by name, a book not accepted by Jews or Protestants as part of the Bible, but included in the so-called "Apocrypha." Another Jesus, grandson of the above-named, has left a Greek version of it, and St. Jerome, who says he saw it in its original Hebrew, has translated it into Latin. The Talmud contains some fragments of that original. The opening words are in the Vulgate as follows: "Honora medicum, propter necessitatem; etenim illum creavit altissimus." (Honour the physician, because thou hast need of him; for he was created by the Most High.) In this passage "honorare," it has been remarked, means not only to "respect," but to "give *honoraria*" (fees). In this sense the Greek of the Septuagint corresponds with the Latin. The passage proceeds: "A Deo est enim omnis medela et a rege accipiet donationem." (From God indeed comes all healing, and the king will crown it with presents.) Again: "Disciplina medici exaltabit caput illius et in conspecta magnatorum collaudabitur." (The culture of the physician will exalt his head, and in the presence of princes he will be praised.) Yet again: "Altissimus creavit de terrâ medicamenta, et vir prudens non abhorrebit illa." (The Most High has made medicines to spring from the earth, and the wise man will not abhor them.) After a eulogy of the virtues of these medicines, especially as prepared by the apothecary, the passage resumes: "Etenim Dominus creavit illum [medicum] et non discidat a te, quia opera ejus sunt necessaria." (For the Lord has created him [the physician], and let him not abandon thee, for his works are necessary to thee.) The English version from the Greek of the Septuagint is substantially the same as the above rendering from the Vulgate. See "Archéologie Médicale de l'Égypte et de la Judée," par le Dr. Beugnies-Corbeau (Liége, 1891).

F.R.C.S. (Belfast) writes: "'Baffled' will find by reference to THE LANCET, Dec. 6th, 1834, p. 906, that dysmenorrhœa and several other neuroses are at once relieved by applying a blister 3 × 2 in. for six hours over the region of the fourth and fifth dorsal vertebræ—in this case a week before the monthly period."

L.R.C.P.Lond., M.R.C.S.—Application should be made at the Office of the Crown Agents for the Colonies, Downing-street, London, S.W.

Scrutator.—No; there is no evidence to justify the conclusion mentioned by our correspondent.

Etiquette.—The subject is treated in another column of our present issue.

WOOD PAVEMENT.

To the Editors of THE LANCET.

SIRS,—Adverting to the annotation in your issue of the 19th inst. respecting the cleansing of wood pavements so commonly used in many large towns throughout England, I take the liberty of directing your attention to "Tuson's Fluid," by the use of which the evils referred to in your article may be entirely prevented. This fluid, as you are aware, consists of a solution of chloride of zinc saturated with sulphurous acid gas, and acts not only by deodorising malodours arising from the droppings of animals, but also as a powerful germicide, in addition to which it is useful, when properly diluted and used in the ordinary watering cart, in allaying dust. In the City of London and in some of the large sanitary districts of the metropolis a 3-per-cent. solution of Tuson's fluid, used in this manner, has been found of signal service after the roadways have been swept by the scavengers at night (so as to prevent unnecessary interference with the traffic). During the recent epidemic of influenza it was employed extensively in large buildings, notably Gresham College, justice rooms, and other places.

I am, Sirs, yours faithfully,

March 23rd, 1892. AMBULATOR.

SALE OF LIQUOR TO CHILDREN.

A PUBLIC meeting has been held in Liverpool to form a league to prohibit the sale of drink to children. Mr. Thomas Pegrim presided. We heartily wish success to such an effort. It is monstrous that children should be allowed to enter public-houses. This is an evil which the police might greatly lessen if they were required to report on it in every case.

Erlangensis.—The question is one we cannot decide, and should be referred to a medical bookseller.

Coroner will see that the matter is referred to in our correspondence columns.

TREATMENT OF CRACKED LIPS.

To the Editors of THE LANCET.

SIRS,—Can any of the readers of THE LANCET oblige me with hints as to the treatment of cracked lower lip in a boy aged fourteen years, who is in good health in every other respect?

I am, Sirs, yours faithfully,

March 22nd, 1892. MEDICUS.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. J. M. Atkinson, Hong Kong; Mr. Barford, Wokingham; Messrs. Boulton and Paul, Norwich; Mr. Bagshawe, St. Leonards; Messrs. Brady and Martin, Newcastle-on-Tyne; Dr. Black, Edinburgh; Messrs. Blake and Co., London; Mr. Brooke, Walsall; Mr. C. Barry; Messrs. Barker and Son, London; Mr. Bour, Highgate; Mr. Baillie, London; Dr. D. Burns, London; Mr. J. P. Bush, Clifton; Surgeon-General Cornish, London; Dr. Charteris, Glasgow; Dr. Cruise, Dublin; Messrs. Cama and Co., London; Dr. E. Clarke, Blackheath; Messrs. Coleman and Co., Norwich; Mr. Clark, Wolverhampton; Messrs. Coxeter and Son, London; Mr. J. Carter, London; Mr. Clegg, Liverpool; Mr. De Craine, Aylesbury; Mr. Davies, Bristol; Mr. Darke, London; Mr. E. Duke, St. Leonards; Mr. Dickinson, London; Mr. A. Duke, Dublin; Dr. Davies, Wrexham; Dr. Dale, Old Barford; Dr. Foxwell, Birmingham; Mr. Ferguson, Glasgow; Dr. Firth, Bradford; Messrs. Ford and Parr, London; Mr. Fiske, Yorks; Mr. Fox, Manchester; Mr. A. Frost, London; Mr. Gibson, London; Mr. Gurner, London; Dr. J. H. Glenn, Dublin; Dr. Grimsdale, Liverpool; Dr. Gilroy, Waterbeck; Dr. Goodall, London; Mr. Goldspink, London; Messrs. Griffin and Co., London; Dr. Hamil, Manchester; Mr. T. C. Horsfall, Swanscoe Park; Mr. Helbing, London; Mr. Hubbard, Hastings; Mr. Hodgson, Bloomsbury; Mr. Hornibrook, London; Mr. Jerram, Cornwall; Mr. V. Jackson, Wolverhampton; Mr. Johnston; Mr. W. Johnson, Manchester; Dr. Knott, Middlesbrough; Dr. Kerr; Messrs. Kutnow and Co., London; Mr. Keely, Nottingham; Dr. Little, London; Mr. H. K. Lewis, London; Mr. Lund, Newcastle-on-Tyne; Mr. W. A. Lane, London; Dr. G. Lyon, London; Mr. T. Leeds, London; Mr. Lamb, London; Dr. P. A. McCarthy, Kempsey; Messrs. Montgomery and Plumbe, Maidenhead; Mr. Maconochie, London; Messrs. Maythorn and Son, Biggleswade; Dr. MacAdam, Edinburgh; Dr. Mackenzie, Surbiton; Dr. Sidney Martin, London; Mr. McWatters, Armagh; Mr. Newnes, Putney; Mrs. Newdigg; Messrs. Newton, Chambers, and Co., Thorncliffe; Dr. Newman, Detroit, U.S.A.; Dr. Orr, Sittingbourne; Mr. O'Reilly, London; Messrs. Oppenheimer and Co., London; Mr. Provand, London; Mr. Pridmore, London; Mr. Pollard, Wakefield; Dr. Ruffer, London; Dr. Ralfe, London; Messrs. Rowntree and Co.; Dr. Rey-Pailhade, Toulouse; Messrs. Reinhardt and Co., London; Dr. Rolleston, London; Mr. Startin, London; Mr. M. Sheild, London; Dr. Santini, Rome; Mr. Slater, Sheffield; Dr. C. S. Symonds, London; Mr. Schultzers-Young, London; Messrs. S. Smith and Co., Bow; Mr. Sturges, London; Mr. Storey, Boston; Mr. R. Steele, Bedford; Mr. P. Thornton, Canterbury; Dr. Thompson, Ulverstone; Dr. Thursfield, Bridgnorth; Mr. Vickers, London; Messrs. Vagliano, London; Mr. S. D. Willard, London; Messrs. Whitworth and Stuart, Manchester; Mr. Wells, Hull; Messrs. Woodland and Cooper, London; Dr. Whitmarsh, London; Messrs. West, Newman, and Co., London; Messrs. Wright and Co., Bristol; Mr. P. W. Young, London; Mrs. K., Kent; Widow, London; Beta, London; Empire Telephone Co., London; L. S. C., London; M.B., C.M.; One of the Olden Time; House Surgeon; Sister; Scapula; Secretary, Chelsea Hospital for Women; Hydropathy, London; Secretary, Lowestoft Hospital; Erlangensis; M.R.C.P.I.

LETTERS, *each with enclosure*, are also acknowledged from—M. Durany, Paris; Mr. Gardiner, Bexhill; Mr. Wilkes, Rotherham; Mr. Hugh Lane, Bath; Mr. Cochrane, Wigtonshire; Messrs. Burden, jun., and Co., Poole; Mr. Ellis, Harrow-on-the-Hill; Mr. Thomas, Wickham Market; Mr. Harris, Bacup; Dr. Chamberlain, Paris; Messrs. Keith and Co., Edinburgh; Dr. Horsfall, Macclesfield; Messrs. Blondeau et Cie., London; Mr. Everard, Athlone; Messrs. Richardson Bros. and Co., Liverpool; Mrs. Tyte, Minchinhampton; Messrs. Austin and Son, Bristol; Mrs. Hitch, St. Leonards-on-Sea; Messrs. Margrave Bros., Llanelly; Mr. Coupland, Rotherham; Messrs. Hewlett and Son, London; Mr. Sotheran, York; Mr. Stenhouse; Mr. Leech, Great Yarmouth; Dr. Nelson, Riverton, N.Z.; Dr. Boreham; Messrs. Down Bros., Borough; Dr. Maynard, Stourbridge; Mr. Evans, Llanberis; Mr. Cormack, Wigan; Mr. Thin, Edinburgh; Mr. Gunther, Mass., U.S.A.; Dr. Wickham, Maldon; Mr. Nicholls, St. Ives; Dr. Hemsted, Whitchurch; Mr. Stewart, Birkenhead; Dr. Johnstone, Eastcheap; Mr. Lester, Aylesbury; Mrs. Ross, Manchester; Messrs. Mertens and Co., London; Messrs. White; Dr. Maskew, Fawley; Messrs. Smith and Son, Manchester; Mr. Alexander, Broseley; Messrs. Adams and Co., Birmingham; Mr. Blucke, Teignmouth; Mr. Lerry, Oswestry; Mr. Renton, Edinburgh; Mr. Kelvin, Manchester; Mr. Calder, Belfast; Dr. Craig, Bedford; Dr. Dunn, Preston; Dr. De Marville, San Francisco; Mr. Granger, Skipton; Mr. Hulme; Mr. Williams, British Columbia; Mr. Heywood, Manchester; Mr. Webster, Huddersfield; Mr. Birchall, Liverpool; Mr. Mainwaring, London; Mr. Draper, Huddersfield; Mr. Hopkins, London; Mr. Burke, Tredegar; Mr. Pryce, Ilminster; Dr. Hardwick, Charing; D. C., London; Matron, Holy Cross Society for Trained Nurses; Fidelis, London; Lower Moor Iron Works, Bradford; H. E., London; C. S., London; Secretary, Union Assurance Society, London; Beta, London; Anglo-Swiss Condensed Milk Co., London; A. B. C., London; Physician, London; Troubled One, London; R. K., London; Cosmo, London; Secretary, Western General Dispensary; Spes; Permanency, London; Imperial Granum Co., New York; D. R., London; W. H. S., London; M.B., Bournemouth; Bachelor, London; Net, London; Robin, London; Forceps, Cardiff; Fides, London; E. B., London; Genuine, London; Pestle, London; Bonus, London; Vernon, London; H., Sheffield; S. P. R., London; Vix, London; General Dispensary, Nottingham; Medicus, London; A. D., London; H. H., Tenby; W. W., Birkenhead; Delta, London; Max, Wimbledon; R., Pontymister; Lax, London; R. P., Dulwich.

NEWSPAPERS.—*Birmingham Daily Mail, Bombay Gazette, Sussex Daily News, Le Temps (Paris), Manchester Guardian, Leeds Mercury, Law Journal, Sheffield Independent, Scotsman, Western Daily Press, Bath Gazette, Methodist Times, National Reformer, Bristol Mercury, Liverpool Daily Post, Scottish Leader, Windsor and Eton Gazette, North British Daily Mail, Insurance Record, Weekly Free Press and Aberdeen Herald, Yorkshire Post, Reading Mercury, Surrey Advertiser, City Press, Windsor and Eton Express, Hertfordshire Mercury, Mining Journal, Cape Times, Pioneer Mail, Builder, Tasmanian Mail, Surrey Mirror, Local Government Chronicle, Architect, Australasian, Glasgow Herald, Ratepayers' Chronicle, Times of India, Guy's Hospital Gazette, Batley Reporter, Rochdale Observer, Oban Times, Derby Mercury, Levant Herald, Hampshire Advertiser, County Council Times, Toronto Globe, Sydney Mail, Winter's Weekly, Irish Times, Hastings and St. Leonards Observer, Peterborough Express, Cumberland Advertiser, The Hairdressers' Weekly Journal, Technics, The Corpuscle, &c.*, have been received.

SUBSCRIPTION.

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